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ORIGINAL LECTURES.

A COURSE OF LECTURES ON DERMATOLOGY.

Delivered at the University of Pennsylvania during the Session of 1883-1884.

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(Reported by Henry Wile, M.D.)

LECTURE VIII.

PARASITES.

THE diseases of the skin to which a parasitic origin is ascribed, are grouped together and form a well-known class. It is the only group of our classification that is based directly upon etiological facts. The effect of the development of parasitic organisms upon the human skin varies according to the nature of the parasite, whether vegetable or animal, the former thriving upon the superficial or epithelial elements of the skin, the latter upon the more vital and deeper structures. The vegetable parasites belong to the fungi, differing from the algæ in being devoid of chlorophyl, and being unable to assimilate inorganic matter. They are commonly known as "tineæ," and include several varieties, namely, *tinea favosa*, *tinea circinata*, *tinea tonsurans*, *tinea sycosis*, *tinea versicolor*. Parasitic diseases are most common in overcrowded communities, and are contagious in various degrees. They are local affections.

Tinea favosa is a contagious disease due to the vegetable parasite known as *achorion Schönleini*, characterized by discrete or confluent pea-sized, cup-shaped, yellowish, friable crusts, accompanied by itching. The symptoms are usually characteristic, among the most notable being the "favus cups." These consist of peculiar, circumscribed, circular, dry, pale, yellowish, umbilicated masses, which at first are firmly attached to the surface of the skin, but later become more or less detached. When taken between the fingers they may be crumbled. The color is generally modified by foreign matter. On detaching one of these cups, the skin beneath is smooth and shining, with a thin epidermal covering, and in a state of hyperæmia or inflamed and suppurating. The amount of crusting varies; when patches coalesce a honeycomb appearance is formed. The disease may attack any part of the body, but the scalp is the usual seat. When the itching is annoying, the patient, from scratching, may introduce the parasite beneath the nails, where it may develop, causing the nails to grow opaque, thick, and friable. A prominent symptom is the odor, which is that of mice or stale straw. Then again the hairs, when the disease affects the scalp, suffer characteristic changes, becoming dry, brittle, and losing their lustre. When the disease is neglected or persists for a time the hairs may become loose, fall out, and leave bald patches, which may be permanent.

It is a chronic affection, usually lasting years. It is due to the development of the vegetable fungus, the *achorion Schönleini*. It does not develop on every individual with the same degree of readiness, but requires a peculiar condition of the skin. As a rule, it is a disease of the poorer classes, and is comparatively rare in this country. It is not infrequently met with in some of the lower animals, as cats, rabbits, and mice, from which it may be communicated to man.

It is a local disease and usually affects the hair and follicle. The crusts are made up of fungus, consisting of mycelium and spores, also epidermal cells and debris. It may readily be seen with a microscope, and when attacking the nails may be detected in the scrapings. It is especially liable to be confounded with pustular eczema.

Occurring mostly upon the scalp, it is an obstinate disease. The hair should be clipped as short as possible; the crusts removed by means of oil or poultices; the loose hairs extracted, and one of the parasitocides applied. The following are effectual: corrosive sublimate, two to three grains to the ounce of alcohol; hypsulphite of sodium; sulphurous acid, and sulphur ointment. The following may also be recommended:

R.—Ol. cadini, ʒjss.
Sulphuris sublimati, ʒii.
Ung. petrolei, ʒi.—M.
Sig.—Apply twice daily.

Time and persistent treatment are necessary to effect a cure; relapses are common.

Tinea circinata, or ringworm of the general surface, is a contagious, vegetable parasitic disease, characterized by one or several circumscribed, circular, variously sized, reddish, inflammatory, slightly scaly patches, accompanied usually by itching. It begins as a small spot, and develops peripherally. When typical, the patches are circular, later becoming annular. The lesions are only slightly elevated at the border. Usually only two or three patches exist. At times, vesicles, vesico-papules or papules may form.

The disease is superficial, attacking the epidermis and affecting the lower layers secondarily. It is asymmetrical, and may invade any region, with preference for the face, neck, hands, and wrists. In adults it not infrequently attacks the thighs, groins, and axillæ.

The course of ringworm is variable, it being sometimes mild, then, again, obstinate. It may attack the nails, being then known as *tinea trichophytina unguum*, characterized by a whitish or yellowish, opaque, thickened, soft state of the nails. *Tinea circinata* is caused by the presence of the *trichophyton* fungus, and is highly contagious; all are, however, not equally susceptible to it. The scales, submitted to the microscope, reveal the fungus.

Local treatment alone is required in the majority of cases. Only in frequently relapsing cases is internal treatment, of a tonic nature, indicated. The most valu-

able parasitocides are the preparations of sulphur and mercury. The former may be used in the form of an ointment, as sublimed or precipitated sulphur, one to three drachms to the ounce, or in the form of a lotion of sulphurous acid. Ammoniated mercury, thirty to eighty grains to the ounce, or the ointment of the nitrate of mercury, is also useful. The following lotions are efficient:

R.—Hydrargyri chloridi corrosivi, . . . gr. iij.
Alcoholis,
Aque, āā f3iv.—M.

Sig.—Apply twice or thrice daily.

R.—Chrysarobini, gr. x-lx.
Ol. cadini, 3j.
Adipis, 3j. —M.

Sig.—Apply twice daily.

R.—Chrysarobini, gr. x-lx.
Liq. guttæ perchæ, f3j. —M.

Sig.—Apply with a brush.

Tinea tonsurans, or ringworm of the scalp, is a vegetable, parasitic, contagious disease, characterized by one or more variously sized patches, on which the hair is diseased and broken off close to the scalp. It develops rapidly, the surface being the seat of variously sized scaly spots of a reddish, grayish or leaden color. The hair loses its lustre, becomes harsh, dry and brittle. Later, they fall out, giving rise to bald patches. More or less itching is usually present. The disease tends to run a chronic course,—often years. *Tinea kerion* is a form of *tinea tonsurans* characterized by marked inflammation, suppuration, and the exudation of a yellowish, viscid product from the hair-follicles, and when fully developed the patches are œdematous and boggy.

Tinea tonsurans is a common disease of childhood, and occurs most frequently among the poor. It is caused by the trichophyton fungus, the same as in *tinea circinata*. The fungus invades the hair, hair-follicles, and epidermis, causing the hair to disintegrate, presenting a peculiar worm-eaten appearance. Under the microscope the hairs of the epidermis are seen to be permeated extensively by the fungus, spores predominating. The bulb of the hair is usually the most invaded. The disease is to be discriminated from eczema, psoriasis, seborrhœa, alopecia areata, and *tinea favosa*.

The object of the treatment is the thorough destruction of the fungus, and for this purpose the remedies already indicated under the treatment of *tinea circinata* may be employed. Cleanliness is important. Patients should have their own special toilet articles. The loose hairs are to be extracted with forceps, after which the parasiticide is to be applied. The scalp, as a rule, in this affection, stands strong remedies, especially where there is a tendency to chronicity.

In the form of lotions corrosive sublimate, two to five grains to the ounce of alcohol and water; carbolic acid one part to two of glycerine; sulphurous acid and tincture of iodine may all be recommended. The same may be used in form of ointments. The following may also be mentioned:

R.—Ung. sulphuris,
Ung. picis, āā 3iv.
Ol. olivæ, f3jss.—M.

Sig.—Apply.

Or,

R.—Ung. sulphuris,
Ung. hydrargyri nitratis, . . . āā 3iv.
Ol. olivæ, f3jss.—M.
Sig.—Apply.

In acute cases, glacial acetic acid and cantharidal collodion are useful. Where the disease is chronic active treatment is always indicated, as by blistering with croton oil. The patches are painted with the oil until the skin becomes inflamed and pustular. Poultices are then used, loose hairs extracted, and later sulphur ointment applied.

Tinea sycosis, or barber's itch, is a contagious, vegetable parasitic disease of the hairy portion of the face and neck of the adult male, characterized by an affection of the hair and hair-follicles, and more or less inflammation, with the formation of pustular and tubercular lesions. The surface becomes red and scaly, as in ringworm, and assumes a deep-red or violaceous hue, and is studded with follicular pustules. The hairs are loose, dry and brittle. The lesions are discrete or confluent, and if not treated incline to run a chronic course. The subjective symptoms are itching or burning. The cause of this disease is also the trichophyton fungus, which invades the hair and hair-follicle. The disease is contagious, yet some individuals are more susceptible than others. It is for the most part contracted at the barber's. It occurs among all classes, and usually between the ages of twenty and forty. The fungus enters the hair-follicles and penetrates to the roots of the hairs, there setting up a perifollicular inflammation which is followed by infiltration, ending in suppuration. The infiltration of the subcutaneous connective tissue gives rise to the well-known tubercular lesions. Affected hairs examined microscopically, appear more or less disintegrated, their structures containing fungus in abundance, mostly spores. The disease must be differentiated from sycosis non-parasitica, pustular eczema, and acne. As to treatment, both depilation and the use of parasitocides are indicated. Crusts should be removed by unguents of oils and washing. The hair should be shaved every third day, between which time all loose hairs may be extracted. Lotions of corrosive sublimate, two to four grains to the ounce, hyposulphite of sodium, one to two drachms to the ounce, and sulphurous acid, are usually well borne. The preparations of sulphur and mercury mentioned under *tinea circinata* are also useful. As a rule, *tinea sycosis* is not difficult to cure.

Tinea versicolor is a vegetable parasitic disease characterized by variously sized, irregularly shaped, dry, yellowish or light-brownish, slightly scaly patches, occurring mostly upon the trunk in adults. The affection begins in small yellowish spots, scattered over the chest or back; later they spread over large areas. Their outline is sharply defined. The amount of scaling varies; it can always be detected by scraping the lesions with the finger-nail. They are of a furfuraceous or mealy character. The disease occurs, as a rule, upon the chest, sides of thorax, axillæ, and groins, and is irregularly distributed. The amount of itching varies. It may exist off and on for years, sometimes in spite of treatment. It is due to a vegetable fungus called *microsporon furfur*, and is only feebly contagious. It occurs

in both sexes after puberty, and is frequently met with in patients suffering from wasting diseases. The fungus consists of spores and mycelium, and is always present in the epidermic scales, usually in large quantity.

The diagnosis is easy; in a doubtful case, a few scales scraped from the lesions, treated with a drop of liquor potassæ, and examined with the microscope, will reveal the fungus. The treatment is usually satisfactory, and any of the milder parasitides already referred to may be employed. A lotion of hyposulphite of sodium, a drachm to the ounce, is a good and safe remedy.

Scabies is a contagious animal parasitic disease, characterized by the formation of burrows, papules, vesicles, pustules, excoriations, crusts, accompanied by itching. As soon as the parasite reaches the skin it begins to burrow into the epidermis, laying its ova as it advances. These develop, and the young parasites also begin to burrow. The irritation gives rise to the formation of pin-head-sized papules, vesicles or pustules, the disease in two or three weeks becoming general, and affecting more or less the whole cutaneous surface. The itching becomes a marked symptom, the patient scratching and producing a variable amount of excoriation and crusting. The disease may generally be recognized by the multiformity of the lesions. The burrows are formed by the parasite entering into the epidermis and producing linear elevations from one to four lines in length. The regions attacked are the fingers, the flexor surfaces, folds of the axillæ, thighs, penis in the male, nipple and mamma in the female, and umbilicus and buttocks in both sexes. The itching is variable, and as a rule is worse at night.

Scabies is caused by the presence of the animal parasite *Sarcoptes scabiei*. It attacks all persons indiscriminately, from infancy to old age, being communicated by shaking hands or through the medium of bedding or clothing. In Europe, it is one of the commonest of all skin diseases, but in the United States it is comparatively rare. The itch mite is barely visible to the naked eye. As to the diagnosis, little need be said. Bearing in mind the multiformity and characteristic distribution of the lesions, evidences of contagion and the presence of burrows, there need be no difficulty. It must be distinguished from eczema. External treatment alone is necessary, and one of the best agents is sulphur.

R.—Sulphuris sublimati, ʒij.
Balsami Peruviani, ʒj.
Adipis, ʒj.—M.

Sig.—Apply twice daily.

The above is to be applied freely over the entire cutaneous surface. The treatment should be kept up for several days.

Another formula is the following:

R.—Sulphuris sublimati,
Styracis liquidi, aa ʒij.
Cretæ albæ, ʒss
Adipis, ʒj.—M.

Sig.—Apply.

Or,

R.—Naphthol., ʒss.
Adipis, ʒij.
Saponis viridis, ʒv.
Cretæ albæ, gr. xxx.—M.

Sig.—Apply.

Other animal parasites attacking man, such as the *Leptus Americanus*, *Leptus irritans*, *Pulex penetrans*, *Filaria medinensis*, *Cestru* (or *Bot-fly*), *Dermodex folliculorum*, *Cysticercus cellulosa*, develop in the skin and produce a variable amount of irritation. The last-named gives rise to variously sized tumors, and may be mistaken for molluscum epitheliale, sebaceous cyst, molluscum fibrosum, and lipoma.

Pediculosis is a contagious animal parasitic affection, characterized by the presence of pediculi, which occasion peculiar lesions, scratch-marks, and excoriations, accompanied with itching. There are three varieties of the disease, called after the species of pediculi.

Pediculosis capitis, due to the presence of the *Pediculus capitis*, or head-louse, is met with chiefly in children of the poorer classes, often in adults, and especially women. It occasions much irritation, which, if neglected, gives rise to excoriations, oozing of blood and serum, that become dry and form crusts and in time mat the hair. It may also give rise to an eczematous condition. Where pediculi exist, ova or nits may be detected on the hairs.

Pediculosis corporis is due to the *Pediculus corporis*, or body-louse (also known as *Pediculus vestimentorum*, or clothes-louse). The lesions are peculiar. The parasite, in drawing its nourishment from the skin, occasions a pin-point lesion, marked by a fine hemorrhage. The itching compels the patient to scratch, producing thereby linear excoriations followed by pigmentation. The parasite lives and develops in the clothes, usually in the seams, visiting the body to get its sustenance.

Pediculosis pubis is caused by the presence of the *Pediculus pubis*, or crab-louse, and occurs usually about the pubes, though occasionally in the axillæ, eyebrows, eyelashes, and beard of the male. The parasite is mostly found adhering to the skin, and the ova are on the hairs. The affection is most frequently contracted through sexual intercourse. The diagnosis of pediculosis should present no difficulty. In the scalp and about the pubes the presence of nits on the hairs is positive evidence, while on the general surface of the body the presence of pin-point hemorrhages, excoriations, multiform lesions, especially about the shoulders and hips, is sufficient. The clothing should always be examined.

In pediculosis of the scalp the main object should be the destruction of the parasites. An effectual method is that with petroleum. The head is well saturated with oil and a bandage applied, the dressing allowed to remain over night. Tincture of cocculus Indicus is also valuable. The nits are best removed by repeated washing with vinegar, dilute acetic acid, alcohol, or alkaline lotions. In pediculosis of the body the first step is to remove all the clothes of the patient. They should be subjected to a sufficiently high temperature to destroy life. To afford temporary relief an ointment of powdered staphisagria, two drachms to the ounce of lard, may be freely applied to the skin. A lotion of carbolic acid is also useful. *Pediculosis pubis* may be successfully treated with simple mercurial ointment, white precipitate ointment, or a lotion of corrosive sublimate, one or two grains to the ounce.

The *Cimex lectularius*, or common bed-bug, *Pulex irritans*, or common flea, *Culex*, or mosquito, and *Ixodes*, or tick, may also attack the skin, producing erythematous, papular or urticarial lesions.

ORIGINAL ARTICLES.

A CLINICAL REPORT ON SOME USES OF MURIATE OF COCAINE IN OPHTHALMIC PRACTICE.

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THE cocaine used was obtained from Foucar, of New York City, about a fortnight ago, and was received in the form of a two per cent. solution.

The following notes which I have made will speak for themselves.

CASE I.—Myself. At 3.5 P.M. pupils normal, and nearest point of distinct vision at 5 inches. Instilled into left eye two drops of cocaine solution. The application was painless. At 3.10 there was decided analgesia of left eye. The bulbar conjunctiva below the cornea of this eye was grasped and pulled with forceps. Contact was appreciated, and the metal felt cold at the first instant, but there was not the least pain. Similar treatment of the conjunctiva of the right eye excited the most lively pain. At 3.20 the pupil of the right eye measured .13 of an inch, while that of the left had a diameter of .25. With the left eye, the nearest point of distinct vision had receded to 7 inches, while for the right eye the nearest point had remained unchanged. There was also some indistinctness of distant vision, due to the manifestation of a slight amount of astigmatism. At 3.45 the diameter of the pupil of the left eye was .27, and the nearest point of distinct vision was at 7 inches. The normal sensibility of the bulbar conjunctiva was now nearly restored. At 4.40 the pupil of the left eye was .21, and the sensibility of the conjunctiva was normal. At 7 P.M. the pupil and the power of accommodation were about normal. During all this time there had been no evidence of irritation of the conjunctiva.

CASE II.—Dr. L., resident physician in charge of the eye wards. At 3.15 P.M. the pupils were normal, of .14 of inch diameter. Three drops of cocaine applied to left eye without discomfort. At 3.18 complete analgesia of bulbar conjunctiva of this eye; as shown by treatment similar to that in Case I. Sense of touch present, but blunted. Right eye acutely sensitive to application of forceps. At 3.28 the diameter of the pupil of the left eye measured .25 of an inch, while that of right remained unchanged. At 3.45 the pupil measured .33 of an inch, but the normal sensibility of the bulbar conjunctiva of the left eye was nearly restored. Accommodative power had been lessened, but it was not measured. At 4.40 the pupil of left eye was .23 in diameter.

CASE III.—Dr. N., resident physician in charge of surgical wards. At 3.15 pupils normal, measuring .14 inch in diameter. Three drops of cocaine instilled into left eye without discomfort. At 3.19 complete analgesia of bulbar conjunctiva of left eye, as shown by tests similar to those applied in the previous cases. Sense of touch dulled, but not abolished. Right eye acutely sensitive to application

of forceps. At 3.45 diameter of pupil of left eye .21, while that of right remains unchanged. The normal sensibility of conjunctiva of left eye nearly restored.

CASE IV.—Miss S., nurse in woman's eye ward. At 3.15 pupils normal, their diameter .21 of an inch. Three drops of cocaine introduced into conjunctival sac of left eye, without discomfort. At 3.20 analgesia of bulbar conjunctiva of left eye complete, as evinced by above tests. Sense of touch only blunted. In the right eye sensibility acute. At 3.45 the pupil of left eye was .33 inch in diameter, whilst that of right was unchanged, and the normal sensitiveness of the bulbar conjunctiva of the left eye was quite restored.

CASE V.—Male, white, adult. Present condition: Retinitis pigmentosa—pupils small, of equal size. Two drops of cocaine solution introduced into right eye, without discomfort, three times at intervals of five minutes. Sensibility first tested ten minutes after first application. Pain on application of forceps to bulbar and tarsal conjunctiva of right eye was very slightly felt when the conjunctiva was first grasped, but it did not continue. The eye speculum was introduced without pain, there being only slight discomfort. The conjunctiva of the left eye was acutely sensitive to similar handling. Normal sensibility had returned at the end of a half-hour after last use of the drops. The pupil of the right eye became much larger than that of the left.

CASE VI.—Male, colored, aged. Present state: Senile cataract and marked arcus senilis in each eye. Pupils equal in size and small; both respond to variations in light. No synechiæ. Sensitiveness of the conjunctivæ not very acute. Application of one drop of cocaine to right eye four times at intervals of five minutes. Ten minutes after first application analgesia of right eye complete. Speculum and forceps used in this eye without any pain, whilst same treatment of the left produced considerable pain. Thirty minutes after the last instillation of the cocaine the normal sensibility appeared to be restored. The pupil had not been at all affected.

CASE VII.—Male, white, adult. Present state: Acute granular conjunctivitis, complicated by vascular keratitis and deep, broad, central ulcer corneæ of the right eye. Constant bulbar and periorbital pain, acutely tender to the touch, intense photophobia, much lachrymation. Two drops of cocaine instilled into the eye twice at an interval of five minutes. Three minutes after the first application the patient volunteered the information that the pain was nearly gone. The photophobia was also far less marked, as shown by the ability to open the affected eye and look upwards. Palpation now produced but little pain. Five minutes after the second application the pain had entirely disappeared, and considerable pressure upon the eyeball did not excite it. The patient could now open the eye without difficulty.

CASE VIII.—Male, white, adult. Present state: Episcleritis of right eye. One drop of cocaine solution applied to this eye three times at intervals of five minutes. Analgesia in this case incomplete.

CASE IX.—Male, white, nine years old. Present

state: Convalescent from acute granular conjunctivitis. One drop of solution of cocaine applied to right eye three times, at intervals of five minutes, produced incomplete analgesia in ten minutes, which continued fifteen minutes after the last application.

CASE X.—Male, white, six years old. Present state: Phlyctenular conjunctivitis and keratitis of the left eye. Much photophobia and lachrymation of this eye; it is kept tightly closed when not shaded. One drop of cocaine solution applied to this eye three times at intervals of five minutes. After the second application the photophobia was much lessened, the child could open the eye and look up when facing a strong light from the window.

CASE XI.—Male, white, adult. Present state: Chronic catarrhal conjunctivitis of the left eye. One drop of the cocaine applied three times at intervals of five minutes, followed by incomplete analgesia.

CASE XII.—Female, white, adult. Present state: Chronic granular conjunctivitis with pannus corneæ. An acute inflammation superadded by the application some days ago of infusion of jequirity. Much and constant pain. One drop of cocaine solution applied twice at an interval of five minutes. Five minutes after the second application the pain had greatly decreased.

CASE XIII.—Female, white, adult. Present state: A chronic granular conjunctivitis with pannus corneæ, which had been improved by an application of infusion of jequirity. One drop of cocaine solution applied once. Five minutes after, the lids were everted and rubbed with a crayon of sulphate of copper. No pain was caused by this until some fifteen minutes after the application of the cocaine.

CASE XIV.—Female, white, aged. Present state: Senile cataract, incipient in the right eye, complete in the left. Applied, at the clinic Wednesday, Oct. 29th, three drops of solution of cocaine to the left eye twice, at an interval of eight minutes. Five minutes after last application began the operation of a preliminary iridectomy, without other anæsthesia. The patient was seated before me in a chair, her head steadied by my assistant Dr. L. Introduction of the speculum, grasping of the bulbar conjunctiva with the fixation forceps, puncture, counter-puncture and section of upper limb of the cornea with a von Graefe knife caused no discomfort nor the slightest disposition of the patient to wince. But when the iris was cut there was lively pain.

It would seem from the experience related above that the following deductions are warranted:

1st. That when properly applied, this drug is usually capable of rapidly producing a transient and more or less complete local analgesia of the conjunctiva and cornea.

2d. That it will probably prove of great value in various operations in ophthalmic surgery, which, without anæsthesia, are very painful.

3d. That it may be expected to give great comfort to patients suffering with pain from exposure or irritation of the nerves of the conjunctiva or cornea.

4th. That it should be used previous to the employment of caustic or other painful applications to the eye.

5th. That mydriasis is usually rapidly produced,

but not always, and that it also rapidly disappears. It would therefore seem to be very useful for simple exploration of the interior of the eye.

6th. That slight paralysis of the power of accommodation follows the application of a two per cent. solution.

LOCAL ANÆSTHESIA BY THE HYDROCHLORATE OF COCAINE.

By R. J. LEVIS, M.D.,

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THE notes of a few cases of the use of the hydrochlorate of cocaine will illustrate its perfect efficiency in some and its apparent inertness in others, and may help toward its proper application and general appreciation.

In a double extraction of hard cataract there was no pain produced by the graspings of the conjunctiva in the fixation of the eyes, in the corneal incisions, and in the iridectomies.

A four per centum solution was freely brushed over the entire conjunctival surface three times, at intervals of ten minutes, and the operations were commenced in forty minutes after the first application. No irritation was produced, and the only sensation described was that of "numbness and hardness." The entire conjunctival surface seemed insensible to repeated pinching with the fixation forceps.

In a single extraction of hard cataract a four per centum solution was brushed over the ocular and palpebral conjunctiva, with the eyelids freely everted. Three applications were made at intervals of ten minutes, and the operation was performed at the lapse of twenty-five minutes. The patient asserted decidedly that she felt no pain whatever.

Preparatory to the operation for uterine procidentia and rectocele the vaginal and labial mucous surface was wiped dry, and a four per centum solution of the hydrochlorate of cocaine was thoroughly brushed over it. The sensitiveness was tested at three intervals of ten minutes each, and the application was repeated three times. There appeared to be at no time any decided loss of painful sensibility, and the operation was finally performed under the anæsthesia of sulphuric ether.

For the removal of a rather large tarsal tumor, the ocular and palpebral conjunctiva and the exterior of the eyelids were brushed with the solution as previously used, at intervals of ten minutes, and the excision was performed at the lapse of forty minutes. The operation seemed to be as painful to the patient as if performed without an attempt at anæsthesia.

For the operation for lachrymal obstruction the application was made in the same manner and at the same intervals. The slitting of the punctum and canaliculus gave no pain, but the passage of the dilating probe down the lachrymal canal seemed to produce some uneasiness.

Prior to applying nitric acid as a caustic to a syphilitic ulcer on the tongue, the same manner and number of applications were repeated, the tongue having been wiped dry and held protruding between the teeth. No pain was produced on the thoroughly benumbed tongue.

HOSPITAL NOTES.

JEFFERSON MEDICAL COLLEGE HOSPITAL, PHILADELPHIA.

Clinical Service of PROF. WM. THOMSON, M.D.

USE OF HYDROCHLORATE OF COCAINE AS A LOCAL ANÆSTHETIC, IN OPHTHALMIC SURGERY.

(Reported by DR. WM. S. LITTLE, First Chief Clinical
Assistant.)

At the Ophthalmic Clinic of the Jefferson Medical College Hospital, on October 31, Prof. Thomson tested the efficiency of the local anæsthetic, hydrochlorate of cocaine on the conjunctiva and cornea. Two cases of convergent strabismus requiring an operation were selected for the trial.

In the cases which have been already reported by different observers, a two per cent. and a four per cent. solution were employed; Dr. Thomson used a half per cent. solution, two drops being instilled into the conjunctival sac every five minutes during a quarter of an hour; the ocular mucous membrane was then found insensible to the touch of blunt and of sharp-pointed instruments; the palpebral portion of the conjunctiva was not so fully anæsthetized; the cornea could also be handled without any response by the sense of touch; the operation could have then been done, but the lecture hour had not arrived. Fifteen minutes later two more drops were used, and again fifteen minutes later.

The operation on the first case, division of the internal rectus of the left eye, by the Critchett method, was done fifty minutes after the first instillation of the drug, and ten minutes after the last employment of it. The introduction of the ophthalmostat to separate the eyelids was readily borne. In cases without general anæsthesia, this has always been one of the most difficult parts of operative procedures for the patient to bear in doing ophthalmic surgery. The manipulation of the conjunctival tissue was accomplished without any sensation on the part of the patient. The division of the tendon of the internal rectus was only slightly felt, and the patient left the operating table with a smile, having undergone the operation without the discomfort of general anæsthesia. The eye was already under the influence of atropia in order to correct the optical defect; and any action of the cocaine on the iris or the ciliary muscle could not be observed.

The second case, also a convergent squint of the left eye, was operated upon fifty-five minutes after the first use of the drug and fifteen minutes after the last instillation. The conjunctiva, as well as the cornea, was insensible to the presence of cotton applied to it, and dull and sharp-pointed and cutting instruments gave no pain to the patient. The pupil in this case was dilated at the end of fifteen minutes; the extent of the loss of power of the ciliary muscle was not tested. The Graefe method of operation on the tendon of the internal rectus muscle was employed; the patient only felt slightly the division of the tendon.

The patients were young women, and had no information given them as to the action of the drug. The claim for the efficiency of the drug as a local anæsthetic for the tissues of the eye that were operated upon was found to coincide with the results already obtained

by those employing it in ophthalmic surgery. Its use cannot be overestimated; nor was any harm found to be done to the humor of the eye when the cases were seen the following day. Sensation had returned to almost the same degree as in the eye not treated with the drug. A further study of its action on the iris and ciliary muscle is required to ascertain its influence on the accommodation.

The use of the drug enables an operator instructing a class of students to show the manipulations to better advantage. Dispensing with the administration of a general anæsthetic reduces the number of assistants, requisite, who always surround the patient and obstruct the view of the class. If anæsthesia is not employed, the pressure of the eyelids upon the speculum separating them annoys the patient, and a severe spasm, with even the best forms of the instrument, may cause loss of vitreous in cataract extraction; in many operations on the eye, under the influence of this local anæsthetic the ophthalmostat can be discarded and retraction of the lids with an elevator or finger of an assistant can be employed.

The possibility of vomiting after ether or chloroform is always a danger after cataract extraction; this can now be overcome by the use of hydrochlorate of cocaine. The principal benefits by its use are that the patient is not a sufferer; that the dread of operations done on the eye can be reduced to a minimum; and that the operator is enabled to study the results of his operation immediately, or modify them, if necessary, without additional pain to the patient; the necessity for this is principally after strabismus operations, and that all manipulations may be done without haste.

In these cases a much weaker solution was used than has been heretofore reported, only a half per cent. solution being employed, which purpose answered all purposes. Dr. Thomson has employed the stronger solution in his private practice, observing that the hyperæmia of the conjunctiva was lessened, and congestion removed in case of slight inflammation, giving us a hope that it may have value as an antiphlogistic as well as an anæsthetic.

MEDICAL PROGRESS.

CANCER OF THE UTERUS COMPLICATING PREGNANCY AND LABOR.—DR. S. HEILBRUNN (*Dissertation*, Würzburg, 1884) reports the case of a woman, æt. 38 years, who was chlorotic until her twentieth year, had typhoid fever when twenty-two, and who had given birth to five children. After the beginning of the sixth pregnancy, in May, 1883, she had irregular hemorrhages, which continued during the whole period of gestation. In October large clots of blood were passed from the vagina, and an examination showed the presence of a twenty or twenty-four weeks' fetus. In the middle third of the vagina was a nodular tumor, reaching to and involving the cervix—a cancer with papillary growths. The vaginal wall was considerably infiltrated.

The fetus was in the first head position, the heartbeats being clearly audible. Labor came on December 25th; on the next day the cervix was largely dilated, and the child was dead. Perforation was performed, and the fetus extracted with the cranioclast. There

was no post-partum hemorrhage. The patient had fever (?) and died in twenty-eight days. The autopsy showed thrombosis of the right iliac, femoral, and saphenous veins, and an abscess of the right broad ligament communicating with the right iliac vein.—*Centralbl. für Gynäkol.*, October 4, 1884.

DISINFECTANTS.—At the close of a paper on this subject, DR. W. J. MILLER, of Dundee, draws the following conclusions:

"1. It is very doubtful that any efficient disinfection of a room can be practised while it is occupied. Nevertheless, it is possible that the presence of a disinfectant, though not in sufficient concentration to kill contagium, may, by long continuance of operation, weaken it, and, if microzymes be the contagium, may so lower their vitality as to impair their power to reproduce their kind. A certain degree of probability is given to this by Prof. Tyndal's observation of the effect of discontinuous heating in sterilizing putrescible liquids, which led him to conclude that there is a period in the life-history of these minute organisms when they are especially vulnerable. It is, therefore, in the direction of good to employ some disinfectant during the progress of the case, and there is none equal, either in efficiency or in simplicity of application, to sulphur. It is exceedingly convenient in practice to use sulphur pastilles, as introduced by Dr. Littlejohn, each of which contains twenty-five grains of sulphur, one or two being used at a time, according to the size of the room. This should be done several times a day.

"2. The skin of the patient should be sponged several times a day with diluted acetic acid, by preference with the aromatic. This is especially applicable in scarlet fever, effectively disinfecting the desquamating skin. I only mention the method of inunction to condemn it emphatically. The strength of the solution must be regulated by what is found agreeable to the patient; a 1 to 20 solution of the aromatic acid, which has been referred to, is generally not too strong.

"3. For the final disinfection of the sick room nothing equals sulphur. But it must be thoroughly applied. The Dundee sanitary authority uses about three pounds of sulphur to a room about ten feet square, carefully closing all apertures by which the fumes might escape, and leaving the room shut up for about four hours.

"4. For disinfection of clothing, etc., the method followed here is exposure to a temperature of about 250° for three hours in a specially constructed chamber, the air being also charged with the fumes of about six pounds of sulphur. It is scarcely possible that any contagium can live through such an ordeal.

"5. Excreta of patients are best dealt with by Dr. Dougal's method—namely, mixture with hydrochloric acid diluted to 1 to 20. He has proved that this solution does not injure the metal fittings with which it comes for so short a time in contact. Clothes may also be thoroughly disinfected by this agent, and without injury.

"6. For hand disinfection, carbolic solution 1 in 20, acetic acid, and sulphurous acid, are almost certainly thoroughly effective.

"7. The question of disinfectant inhalations for lung disease, especially phthisis, demands a longer consideration than can here be given to it, but, when we consider

that vaccine which had been exposed for three hours to air saturated with creasote vapor, and similarly for four hours to the vapor of eucalyptus, retained its infectivity unimpaired, that the germs to be acted on are far in the recesses of the air-vesicles, and that the inhaled disinfectant can only reach them in very weak dilution, if indeed it reaches them at all, it appears to me, although it is very disappointing to arrive at such a conclusion, difficult to place much confidence in this therapeutical expedient."—*Practitioner*, October, 1884.

ALTERATIONS IN THE ACTION OF DIGITALIS PRODUCED BY FEBRILE TEMPERATURE.—DRS. LAUDER BRUNTON and THEODORE CASH, at the close of an article on this subject, thus summarize the results of their experiments:

In the cat, and probably all animals in which the vagus centre exerts, as it does in man, a considerable restraining influence upon the pulse, rise of temperature causes at first a slight quickening of the pulse, which is probably due to stimulation of the cardiac ganglia.

This quickening does not increase in such constant proportion to the temperature as it does in rabbits, in which the vagus centre normally acts but slightly upon the heart.

When the temperature rises in the cat above a certain point it weakens the action of the peripheral ends of the vagus on the heart, and also weakens the vagus centre in the medulla.

The action of heat upon those two parts of the nervous system appears to be of the same kind, but it differs in degree, the centre appearing to be more affected than the periphery, so that its inhibitory action is completely abolished at a time when the peripheral ends still retain their functional activity to a great extent.

Though the inhibitory centre in the medulla is rendered inactive by the heat, so that it does not act on the heart, it is not completely paralyzed, and is still able to restrain the heart when it is called into action by a powerful stimulus, such as strong galvanization of one of its afferent nerves.

The action of digitalis upon it is that of a stimulant increasing its activity, and is very much like the effect which we should expect from gentle instead of strong stimulation from one of its afferent nerves.

The practical conclusion which results from our experiments is that a high temperature lessens the inhibitory power of the vagus centre in the medulla to such an extent that digitalis, and probably all drugs which act like digitalis on this centre, lose, to a great extent, their power to restrain the action of the heart and slow the pulse.

The administration of digitalis, or of drugs which act like it, to patients in a febrile condition is, therefore, likely to have much less effect on the pulse than at the normal temperature, and, if the temperature be very high, they may have no effect at all whilst this persists.

When the temperature begins to fall the pulse naturally becomes slower, and this slowness is increased if digitalis has been given at the height of the fever. It is, therefore, evident that digitalis and its congeners, if they are given at all when the temperature is high, should be given with great care, for otherwise the medical man may be induced, by the apparent inaction of the remedy, to push its administration too far during the

fever, with the consequence of producing too great depression of the pulse during defervescence.—*Practitioner*, October, 1884.

THE THERAPEUTICS OF EROSIONS OF THE CERVIX.—DR. FUERST read a paper on this subject at a late meeting of the Obstetrical Society of Leipzig. Of 52 cases reported by him 29 were simple erosions and 5 of gonorrhoeal origin; 11 were follicular erosions, 1 with hypertrophy of the cervix, 1 with formation of a polypus, 3 with large retention-cysts; 12 were papillary erosions, of which 4 were of fungous origin and bled profusely, but which were non-malignant.

The cases of simple erosion were treated with an injection of permanganate of potash, and then with the application of a one per cent. solution of nitrate of silver. The follicular erosions were scarified and cauterized with nitric acid by means of Playfair's sound, and the papillary erosions were treated with the sharp spoon or the Paquelin cautery. In some cases the after-treatment was such as recommended by Säger; the dry treatment by means of iodoform powder or vaginal suppositories, and the iodoform tamponade. The lower part of the vagina was filled with glycerine and tannin tampons. The results of these methods of treatment have been very good.—*Centralbl. für Gynäk.*, September 20, 1884.

RESECTION OF THE HEAD OF THE HUMERUS FOR ANKYLOSIS.—PROF. ALBANESE reports, in the *Archivio di Ortopedia* for April, an operation for ankylosis of the shoulder, performed in the surgical clinique of Palermo, in the presence of Prof. Tommasi-Crudeli. The patient, Maria B., aged twenty-one, had during the preceding twelve months, suffered pain in the right shoulder-joint, which gradually became immovable. The appearance on admission, as shown in an accompanying illustration, suggested downward dislocation of the head of the humerus. The acromion was prominent and the deltoid flattened. The patient could not touch her head with the right hand, and the corresponding olecranon could not be brought nearer than eight inches from the chest wall. The patient being under chloroform, Prof. Albanese made an L-shaped incision, three inches and a half in extent, along the spine of the right scapula into the shoulder-joint. The sides of the wound being held open with strong hooks, the head of the humerus was severed by two blows with the chisel on a level with the anatomical neck. The surgical neck, dislocated outwards, was rounded off with gouge and file, so as to fit in a hollow made with a spoon, in the head of the humerus, which was adherent in the glenoid cavity. A drainage-tube was introduced, and the wound closed with interrupted sutures. An antiseptic dressing was applied according to Listerian precepts. Recovery was rapid. The temperature remained normal throughout, the wound was healed within a fortnight, and the patient discharged at the end of a month, with perfect symmetry of the two shoulders. Two months after the operation the patient could bring the elbow to the side, move the arm in all directions, and dress her own hair.—*Lancet*, October 4, 1884.

TREATMENT OF AORTIC ANEURISM.—SCHROETTER reports (*Deutsches Archiv für klin. Medizin*, Bd. xxxv. p. 139, 1884.) the case of a man, forty-four years of age,

who had a strongly pulsating tumor to the right of the sternum, reaching from the clavicle to the fourth rib, and threatening to perforate the skin. By means of a fine canula, bent at an angle, Schrötter introduced silk threads into the aneurism. Within four days he introduced 50 inches of thread, without causing hemorrhage. The tumor soon felt harder, and then became painful and inflamed, and the temperature rose. The patient died in two weeks with symptoms of pulmonary oedema.

The autopsy showed an aneurism of the descending aorta, with fatty degeneration of the heart. The aneurismal sac was as large as a child's head, and filled with thrombotic masses. In spite of the fatal issue of this case, Schrötter recommends the method as one likely to be of much value.—*Centralbl. für klin. Medizin*, September 20, 1884.

RESULTS OF ABDOMINAL SECTION.—At the Samaritan Free Hospital, on Wednesday, October 5th, before commencing operations for the removal of the uterine appendages in a case of fibro-myoma of the uterus, and for the removal of ovarian tumors, MR. KNOWSLEY THORNTON stated that, in his last hundred ovariectomies performed at the hospital, there had been three deaths. In one of these fatal cases the patient was an elderly woman, with malignant disease of the stomach, liver, and rectum, as well as a large ovarian cyst. The second death was from hemorrhage, caused by the slipping of a ligature; the patient lost much blood before it was discovered, and never rallied, although she lived a few days after the bleeding had been checked. The third case also died from hemorrhage, but of a different kind. After a tumor had been enucleated from its capsule with considerable difficulty, profuse general oozing occurred from the pelvic tissues, and every attempt to check it proved a failure. Besides the series of ninety-seven successful ovariectomies, Mr. Thornton had successfully performed nephrectomy eight times in succession, as well as one nephrotomy, one nephro lithotomy, and several cases of removal of the uterine appendages, also without a death. He regarded these results as a complete vindication of the value of the strict antiseptic method, since, in this series of major operations, blood-poisoning in any form had been entirely banished, though his operations had been exposed to risk of infection from cases of septicaemia and pyæmia in neighboring wards. These were a series of clinical results, supporting the experimental results recently published by Professor Chiene, of Edinburgh, and both equally tended to establish the valuable protection afforded by the spray. In only one of the ovariectomies was drainage used, and that was a case in which the ureter was wounded, with escape of urine into the peritoneum. Thus, it was evident, Mr. Thornton observed, that, with careful antiseptics, the drainage-tube was unnecessary, and septicaemia was removed from the causes of mortality. The chief Continental operators have, for some time, excluded fatal cancerous cases from their percentage mortality; this reduces the mortality in this series to two per cent., one of the two deaths being certainly from a preventable accident. In no case had any serious symptoms been observed that could be ascribed to the absorption of carbolic acid, though the series included a large number of very severe and prolonged operations, one lasting for three hours and a quarter.

ALBUMINURIA IN STRANGULATED HERNIA.—DR. ENGLISH has recently contributed to the *K. K. Gesellschaft der Aerzte in Wien* a valuable monograph on this subject, based upon the clinical examination of seventy-four cases of strangulated hernia. In thirty-nine albumen was present in the patient's urine. It appears sometimes simultaneously with the principal symptoms of strangulation, sometimes several days later, and disappears in from twenty-four hours to four days after taxis, or successful herniotomy. According to Dr. English, albuminuria, when not previously existent, indicates in cases of hernia, in which symptoms of strangulation are present, that the intestines are involved; when absent only omentum or an appendix epiploica will be found in the hernial sac. The more serious and advanced are the pathological changes in the strangulated intestine, the greater will be the amount of albumen in the patient's urine. A high degree of albuminuria in cases of gangrene of the intestine is a very grave symptom, liable to be followed by suppression of urine after operation. The least trace of albumen in the urine of a patient with strangulated hernia is always an indication for immediate operation, after a very gentle attempt at reduction by manipulation. Dr. English found that increase and diminution of albumen in these cases was invariably simultaneous with an increased or diminished secretion of urine. Casts were seldom found in the urine, and then not until about two or three days after the albuminuria had appeared; the excretion of pigments was increased. In cases of albuminuria from other causes, the amount of albumen was always greatly increased as soon as symptoms of strangulation set in. Dr. English's clinical researches are of considerable pathological value, and the surgeon may bear in mind that he need not be alarmed if, before operating, albumen be discovered in the patient's urine.—*British Med. Journ.*, Oct. 4, 1884.

REMOVAL OF A CANCEROUS TUMOR FROM THE BLADDER.—The following case came under the care of MR. GODLEE at the University College Hospital:

Male, æt. 49 years. No history of stone, rheumatism, phthisis, syphilis, or cancer. About nineteen months ago the patient began to pass a few drops of blood at the end of micturition. No notice was taken of this, until the amount became larger and the intervals of remission longer. It became also more completely mixed with the urine, but occasionally clots were also passed. He felt no pain at first when blood was passed; but three months ago micturition began to be accompanied with pain over the pubes, of a dull character, together with a smarting and itching at the end of the penis. During the last three or four months, patient has had to pass water very frequently, sometimes as often as every half hour, and the quantity passed has been very small; the frequency is a little more at night than during the day. Six weeks ago he noticed something in the urine like a "piece of flesh."

Patient occasionally passes small, flesh-like masses. The urine is now of a smoky, reddish color; it contains a one-fifth albumen, and there is a sediment on standing. This deposit consists of mucus, blood-corpuscles, triple phosphates, and a little pus. On passing a sound, the instrument is deflected to the left as it enters the

bladder, and, as the sound enters more deeply, it is impossible to bring it to the middle line, until the back of the bladder is reached, on account of an irregular hard mass growing from the base and right side of the viscus. A small amount of bleeding followed the sounding. A stone could not be felt. It was thought that the mass detected by the sound could be felt with the hand placed above the pubes, and this was verified afterwards when the patient was anesthetized, it being then possible to grasp the mass between the fingers of one hand placed over the pubes and the forefinger of the other passed into the rectum.

Under chloroform, after examination, Mr. Godlee opened the bladder by the median incision. On passing the finger in, a large sessile growth was felt on the anterior wall of the bladder. This was extracted by means of a Thompson's bladder forceps. The hemorrhage was rather free, but readily ceased after the injection of iced water. Chloride of zinc solution was applied to the interior of the bladder and to the wound, and iodoform was dusted on to the latter. A tube was inserted. It was not possible, apparently, to get away the whole of the growth.

In remarking upon this case, Mr. Godlee said that it is questionable whether a surgeon is justified in attempting the removal of a tumor of the bladder which is so large that it can scarcely be hoped to remove it entirely. The justification of such a proceeding in the present case appeared to be the fact that the man was rapidly losing strength as a result of the hemorrhage and suffering great discomfort from the pain and frequency of micturition. The free application of chloride of zinc and of iodoform kept the bladder perfectly sweet, and the patient thus suffered from no constitutional disturbance after the operation. The question of a second operation may possibly arise, as the nature of the growth was unquestionably epitheliomatous.—*Medical Times and Gazette*, September 27, 1884.

THE REDUCTION OF DISLOCATIONS OF THE HIP.—DR. S. J. ALLEN (*Trans. Vermont Med. Soc.*) gives the method, which he first used in 1841, of reducing dislocations of the hip by manipulations. The first case was that of a woman, æt. 40, who slipped and fell. Grasping the leg with my right hand, and the thigh with my left, I flexed the leg upon the thigh at right angles with the body, somehow the limb became fixed in the position, and could not be moved. It seemed locked, and could not be moved without considerable force and pain. I immediately stepped upon the bed, and standing with her limbs between my own limbs, and placing the dorsum of her foot against my nates, with my right hand under the bend of her knee, I lifted her hips from the bed, holding her steadily in that position less than half a minute, when the head of the bone slipped into the socket, accompanied by that peculiar audible shock which so delights the surgeon's ear.

The second case was that of a man who had a dislocation of the right femur on the dorsum ilii. After the patient was chloroformed, the whole muscular system being relaxed, I stepped upon the bed, and flexed the leg upon the thigh, with the thigh at right-angles with the body, and, placing his foot between my legs with its dorsum against my nates, and my right arm beneath

the flexed knee, I lifted his hips well from the bed, and held them immovable in that position less than one-half minute, when the head of the thigh-bone returned into the socket with the usual audible sound. The reduction was accomplished so quietly that the doctor, who was standing at the patient's head, with his inhaler in hand, did not notice when it occurred, nor did he comprehend the method used, and at first questioned the fact of its having been reduced.

By this method, the lower part of the body is lifted well from the table or bed, and held immovable. The weight of the hips and opposite leg rotates the body outwards, producing just sufficient abduction and distention quietly to draw the head of the femur through the slit in the capsular ligament, and direct it into the acetabulum. By this method no further violence is done to the soft parts about the joint; the head of the femur being drawn directly back through the rent in the capsular ligament without increasing its laceration in the least, which no other method can claim.

One word in regard to other forms of dislocation of the hip. The dislocation into the ischiatic notch is a mere continuation of the dorsal form; the head of this bone being thrown simply further from the socket, it is evident that this method will quite as readily reduce this form of luxation.

The foregoing cases, it will be observed, are all cases of dislocation of the *dorsum ilii*, but at the same time we should remember that luxation on the *dorsum* is the type of dislocations of the femur, and that before reduction is accomplished in the other and rarer forms, the head of the thigh-bone must be thrown on the *dorsum* before it can be returned to the acetabulum. Indeed, it is not uncommon for the head of the femur to be changed from one position to the other several times during the manipulations before it can be reduced by the method of Dr. Nathan Smith. In my method the *automatic* principle is evident. The patient, being placed and held in a certain position, sets his own dislocation, thereby making him "*particeps criminis*" in case of suit for malpractice.—*Canada Med. Record*, September, 1884.

FLOATING LIVER.—DR. J. KRANOLD, of Osnabrück, reports (*Med. Korrespondenzblatt des Würtemb. ärztl. Landesvereins*, Nos. 21 u. 22, 1884) the case of a woman, æt. 38 years, and who had been pregnant eleven times, who complained, a few days after her last labor, of a feeling of pressure and dragging pain in the loins; this was followed by constipation and loss of appetite. These symptoms were increased by hard work.

Physical examination showed the presence of a tumor in the right half of the abdomen, which, on account of its size, shape, and situation was recognized as the dislocated liver. The most dependent point of the tumor was recognized as the blunt right border, and lay in the region of the *linea iliopectinea* of the pelvis. The anterior sharp border was turned to the right, and lay in an oblique position from right below to left above. The fissures in the border of the liver were clearly felt. The upper convex surface of the liver was turned anteriorly. Between the inferior borders of the lung (in the right mammary line) and the upper border of the liver a loud, tympanitic intestinal note, both anteriorly and

posteriorly. The upper surface of the liver was smooth. Within a few weeks the pains in the hepatic region and the abnormal sensibility on pressure disappeared spontaneously; prominences could be felt on the upper surface, and some ascites appeared, which increased to such an extent that the abdomen was punctured three times. The mobility of the tumor greatly diminished, and its position changed somewhat. The number of prominences on the surface of the organ increased considerably, and the presence of nodules in the mesentery was also made out. The patient rapidly declined in health, and died in about seven weeks after her entrance into the hospital.

The autopsy confirmed the clinical diagnosis of: floating liver, subsequent carcinoma of the liver, carcinoma of the peritoneum and its appendages, and thrombosis of the portal vein. The suspensory ligament of the liver was elongated, measuring from $1\frac{1}{2}$ to 2 inches. The relation of the right and left lobes to the abdominal cavity was normal, except that the whole organ was somewhat turned on the sterno-vertebral axis. The length of the left lateral ligament was more than $\frac{1}{4}$ inch. The liver was considerably enlarged.—*Centralbl. für Chirurgie*, October 4, 1884.

PARALDEHYDE IN MENTAL DISORDERS.—BENDA has used paraldehyde as a hypnotic in 34 cases of mental disorder, in doses varying from f3ss to f3ij. In 12 cases in which it was used on men, 4, 2 of maniacal delirium, 1 of chronic dementia, and 1 of *manie circulaire*, were put to sleep. In a fifth case, of very restless insanity, f3iss caused sleep, though the mental condition remained unchanged. In the remaining seven cases the action was uncertain or entirely negative.

Of the 22 female cases, mostly in the secondary stages, there were 12 in which paraldehyde caused peaceful sleep during the whole time that it was used. This effect was usually obtained by doses not larger than f3j. In 7 cases the effect was uncertain or very transient, and 2 cases were uninfluenced. The drug was at first given in oil, but wine was subsequently found to be the best vehicle, sleep being produced in fifteen minutes at most.—*Centralbl. für klin. Medicin*, September 20, 1884.

LIGATION OF LEFT COMMON CAROTID ARTERY AND INTERNAL JUGULAR VEIN.—DR. R. M. STONE, of Omaha, reports the case of a man, æt. 24 years, whose left external carotid and left internal jugular vein were opened by fragments of glass. The hemorrhage was controlled by pressure at first, and then the common carotid artery and internal jugular vein were ligated above the omohyoid. As it was considered unwise to attempt to ligate the distal end of the severed ends of the vessels, a compress, soaked in dilute Monsell's solution, was placed in the wounds.

The wounds were treated antiseptically with powdered boracic acid and bichloride of mercury solution. One of the ligatures was removed on the thirty-sixth day, the other on the seventy-ninth. The patient has fully recovered, with the exception of unilateral facial paralysis, from section of the facial nerve by the glass.—*Medical Record*, October 25, 1884.

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SECONDARY NERVE-SUTURE.

THE experiments of Vulpian, Batowetzki, Philippeaux, and Brown-Séguard on the lower animals have conclusively demonstrated that primary suture of divided nerves hastens their reunion, regeneration, and return of function, and these results have been confirmed in the human subject in the forty-five cases that have been recorded, at least two-thirds being successes, the reports in the remainder being incomplete, either because the cases were lost sight of, or because they were published too soon after the operation.

Up to a comparatively recent period not a few surgeons declared that secondary suture should not be resorted to; but during the present year papers from the pens of MÜLLER, WEISSENSTEIN, and CHAPUT, which may be found, respectively, in the *Deutsche Zeitschrift für Chirurgie*, Bd. xx. Hefte 3 and 4, Bruns's *Mittheilungen aus der Chirurgischen Klinik zu Tübingen*, Heft 2, and the *Archives Générales de Médecine* for August and September, show that the operation yields even slightly better results than immediate suture. Among the more remarkable cases of complete restoration of the physiological functions of the nerve, may be mentioned those of Busch, Holmes, and Esmarch, after union of the radial at three, five, and sixteen months; those of Hulke and Jessop of the ulnar after four months, and nine years; those of Kraussold, Tillaux, and Langenbeck of the median after two, four, and eight months, and another of Tillaux's after fourteen years; and, finally, that of Simon of the median and ulnar nerves after ten months. In the majority of these cases the sensi-

bility was speedily restored, but the period required for the restoration of the motor function was much longer, the earliest being sixteen days, and the longest three years, the average being from nine months to one year.

Of the thirty-three cases collated by Weissenstein, twenty were complete successes, in four sensibility alone was restored, in six the improvement was very slight or not noticeable, while in three the reports were very imperfect. Hence, a complete cure was attained in sixty per cent. of the cases, a result which closely corresponds with that derived by Chaput from an analysis of twenty-seven cases.

The interval between the operation and the return of sensibility averages from two to four weeks. In one case the restoration occurred in sixteen hours, while in four it occurred prior to the fourth day. The restoration of mobility, on the other hand, is much retarded in consequence of atrophy of the paralyzed muscles. In a case recorded by Langenbeck of suture of the radial nerve, about three months after its division, motion was apparent on the fifth day, and the function was completely restored on the twentieth day. In a similar injury, recorded by Müller, however, two years and a half elapsed before active movements were perfect, and the rule may be accepted that a year will be required to restore the atrophied muscles to their normal condition.

The rapid return of sensibility, and less frequently and to a less extent of motion, has led Chaput to hold with Schiff, Gluck, Batowetzki, Falkenheim, Paget, and Tillmanns, that a divided nerve may unite primarily without degeneration of its peripheral end, a doctrine which is opposed by Nicaise, Mitchell, Letiévant, Brown-Séguard, and the great majority of observers. Indeed, the weight of authority appears to sustain the view that Wallerian degeneration of the distal extremity must ensue before new elements can be produced. The explanation of the seven so-called immediate unions, after secondary suture, adduced by Chaput to sustain the former theory, has been given by Arloing and Tripier, who, according to Brown-Séguard, "proved that the various nerves send to each other recurring ensiform or loop-like fibres, which, coming by one of them from an anterior spinal root, goes into another, to ascend to the spinal cord through a posterior root, producing, when acted upon in one nerve, an impression which follows the loop, and then ascends to the cord through the other, giving rise to the so-called 'recurring' sensation so well studied by Magendie and Bernard." In other words, the rapid return of sensation is not due to immediate union of the divided nerve, but to a supplementary function of intact neighboring sensory nerves.

The operation has never been followed by tetanus or by death, and only occasionally by neuritis. Hence, it would appear that secondary suture of the nerves, however long the time which has elapsed since their injury, is as much indicated as is primary suture, since it yields as good results as does the latter procedure. Catgut is the best material for the purpose, and, although Weissenstein recommends the indirect or paraneurotic suture, which penetrates the sheath alone, we are inclined to believe, with Chaput, that the direct stitch is the more secure and favors more rapid union. Be this as it may, the induced current and massage must be methodically and perseveringly employed during the after-treatment, with a view to restore the functions of the atrophied muscles.

NEW VIEWS ON CIRRHOSIS OF THE LIVER.

Up to the present time, nothing seems to have been better determined than that the primary change in cirrhosis of the liver is a chronic inflammatory hyperplasia of the interacinous connective tissue, and that secondarily the cells are destroyed by pressure of the contracting cicatricial tissue. But at the recent meeting of the Society of German Naturalists and Physicians at Magdeburg, PROF. ACKERMANN read a paper in which he claimed that the primary change is a necrosis of the liver cells, constantly associated with a deposit of fat in their interior. This death is brought about by the action of the poison circulating in the portal blood, be it alcohol, phosphorus, or a microorganism. On the other hand, he considers the overgrowth of connective tissue as a secondary, reactive, and even salutary process, intended to limit the primary one. The hyperplasia is attended from the beginning by the formation of a large number of new arterial capillaries which not only serve for the nourishment of the liver, but also render the secretion of bile possible for a time longer. This is accomplished by the formation of new biliary passages, which maintain a communication between the parts of the liver cut off, and the pre-existing bile-ducts. It is in consequence of this, according to Ackermann, that jaundice is so rare in cases of cirrhosis. These capillaries, both biliary and arterial, are very distinctly present in the oldest parts of the connective tissue, a fact which is incompatible with the view that the atrophy of the cells is a consequence of the contraction, since, if this were the case, the bloodvessels and biliary capillaries would be destroyed by the process. The liver is smaller, because, as a rule, the destruction of the cells is more rapid than the new formation of connective tissue.

On the other hand, if the connective tissue formation is more rapid than the cell destruction, there must result an enlargement of the entire organ. And

this is what always occurs in the first stage, and is sometimes continued, resulting in the morbid product known as that of hypertrophic cirrhosis, which, therefore, according to this view, need not be considered a special form of the disease.

Ackermann admits that there is a very rare affection, which he has seen but once in man and twice in the livers of horses, in which there is a true inter- and intra-acinous hyperplasia of connective tissue which follows the course of the preëxisting vessels, and is not accompanied by the formation of new ones. In this form the cells atrophy from pressure of the neoplastic connective tissue, but the vessels remain patulous, there is no ascites, and to the very end the organ remains larger than the normal, while the surface is smooth instead of nodular.

The discussion was participated in by Profs. Rindfleisch, Strümpell, Aufrecht, Küsner, and Schwalbe. The first adhered to the original view of the origin of cirrhosis and the destruction of the cells by the contracting interstitial tissue, but the others seemed to favor the new views of Ackermann, adducing the analogous process in parenchymatous nephritis, in which a primary cellular change is followed by an interstitial hyperplasia, and the fact that liver cirrhosis begins with a primary disease of the liver cells by causing artificial obstruction of the bile-ducts. While it is acknowledged that phosphorus poisoning induces a rapid destruction of liver cells, Küsner adduced the fact that chronic phosphorus poisoning causes a "classic cirrhosis," whence he thinks it also highly probable that in ordinary cirrhosis the primary change is in the parenchyma, while the interstitial hyperplasia is secondary.

There can be no doubt that there is some force in the analogies presented, but, had they been carried a little further, it is not impossible that a different conclusion might have been reached. It is well known that there is a form of interstitial inflammation in the kidney in which there is a primary interstitial hyperplasia and a secondary destruction of parenchyma cells. It is well known, too, that this process is a slow one. Is it not more reasonable to suppose, therefore, that the same cause, operating slowly and in small quantities, produces an interstitial hyperplasia, which, when concentrated and operating rapidly, acts upon the parenchyma cells? At the same time, these researches of Ackermann open a new direction of research and thought which may lead to valuable results.

OUR MEDICAL MUSEUM AND LIBRARY.

Now that the election is over, and it may be hoped that a member of Congress will listen to suggestions which have no immediate relation to "practical politics," and will remember the same

for more than twenty-four hours, it is very important that the interval of a few weeks which is to elapse before the meeting of Congress should be utilized by the medical profession throughout the country in urging upon members the urgent necessity for making provision this winter for a commodious fire-proof building for the Army Medical Museum and Library, so-called.

The state of the case is briefly as follows.

During its session last winter Congress was induced, by the representations of the medical profession of the country made through committees of all the principal societies, and also by individual medical men through their friends and acquaintances among the members, to take up the question of providing such a building.

In the Senate the following bill (Senate bill 403) was passed and sent over to the House:

"That the sum of three hundred thousand dollars is hereby appropriated, out of any moneys in the treasury not otherwise appropriated, for the purchase of a site and the erection in Washington of a brick and metal fire-proof building, to be used for the safe-keeping of the records, library, and museum of the Surgeon-General's Office of the United States Army; and the building shall be constructed in accordance with plans and specifications provided by the Surgeon-General of the Army, and approved by the architect of the Capitol extension; and the money hereby appropriated shall be expended under the direction and superintendence of the officer in charge of the State, War, and Navy Department Building."

The Committee on Public Buildings and Grounds in the House, after a long delay, and just at the end of the session, reported the following bill to the House (H. R. 48).

"That a brick and metal fire-proof building, to be used for the safe-keeping of the records, library, and museum of the Surgeon-General's Office of the United States Army, is hereby authorized to be constructed upon the Government reservation in the city of Washington, in the vicinity of the National Museum and Smithsonian Institution, on a site to be selected by a commission composed of the Secretary of War, the Architect of the Capitol, and the Secretary of the Smithsonian Institution, and in accordance with plans and specifications submitted by the Surgeon-General of the Army and approved by said commission, the cost of the building, when completed, not to exceed the sum of two hundred thousand dollars; the building to be erected and the money expended under the direction and superintendence of the Secretary of War.

"Sec. 2. That the sum of two hundred thousand dollars is hereby appropriated out of any moneys in the Treasury not otherwise appropriated, for the commencement and completion of said building."

This bill is now on the calendar of the Committee of the Whole in the House, and the Senate bill, as passed, is also before the House. It will be seen,

therefore, that the matter rests with the House, and the danger is that in the short session, with the crush of business which will occur, this matter of so much importance may be crowded out or overlooked, if members are not reminded by their medical friends that it is a matter of great interest to the profession that this building should be provided for this winter. We want this building completed and the priceless treasures of the museum and library safely stored and properly displayed in it when the next International Medical Congress meets in Washington, in 1887, and there is no time to be lost in the matter.

A FACTOR IN THE PREVENTION OF DISEASE.

In order to effect a wise and efficient application of the principles of preventive medicine in the household, a knowledge of these principles and a prompt coöperation with the health officers are absolutely indispensable. How best to secure these important objects is a perplexing question in sanitary administration. The health laws and regulations may be ever so carefully prepared, and their official execution wisely attempted, but unless their intent and meaning are clearly comprehended and their provisions faithfully and intelligently carried out by the individual, much, and a very important part, of the intended benefits will be rendered nugatory.

In no particular is this experience more deplorably realized than in the case of the domestic management of contagious and infectious diseases. Whilst presumed under the direction of the health officer, it is practically controlled by the authority of the household, and the results depend mainly on the manner in which this is exercised. It is impossible for the health officer, or his agents, to exercise a constant supervision over the important details of the management of these cases. He can direct and instruct, and, by occasional visits, infer approximately as to the measure of completeness with which his advice has been carried out; but he will fail to secure the desired results, unless there be an intelligent coöperation, which is based upon a clear comprehension of what is required to be done, and the reasons therefor.

Ignorance in matters relating to sickness and sanitation is the great barrier to success in the use of the means for the prevention of disease. To overcome this serious obstacle, is the aim of all enlightened sanitary government. Effort has been made to disseminate knowledge by the circulation of tracts containing specific information on sanitary topics, by discussions on hygiene in the public press and in the lecture hall, and by the publication of health primers. These means are valuable, and their use has been of great assistance in dealing with the practical ques-

tions of domestic sanitation. But there is still need of a general and more thorough system of instruction in the fundamental principles of hygiene, designed to reach the youth of the community.

The instruction of the young must be considered as an important factor in the prevention of disease. It should be compulsory, and form part of the course of study of the elder children in our schools. With most persons it is not an easy nor a pleasant task to acquire technical lessons in any study in after-life. "It is hard to learn while the struggle for daily bread is going on." Childhood is the impressible period of life; the lessons learned in youth are not apt to be forgotten. Advantage should, therefore, be taken of this circumstance in making the coming generation wiser than their parents, and better fitted to take care of their health. A recent English writer plainly states the whole case when he says: "The elder children in all public schools should be regularly taught a course of simple lessons on the prominent symptoms of infectious diseases, the dangers to be expected, and how to avoid them; the ways in which infection is spread, and how to prevent it; the common defects in house sanitation, and how to detect them; the pollution of air, food, and water, and the dangers of damp and overcrowding on the constitution. In short, a simple course of lessons on health, and how to keep it."

Were this advice reduced to practice, much of the ignorance, opposition, and reckless behavior encountered in the management of communicable diseases, particularly in the houses of the poor, and the serious embarrassment and discomfiture of the health officials in exercising their executive functions, would be removed, while the sanitary government of the household, an important agency in maintaining the public health, would be very greatly promoted.

SUCCESSFUL INOCULATION WITH CHOLERA BACILLUS IN RABBITS.

SOME weeks ago, we called attention to the results of inoculations by Nicati and Rietsch, of Marseilles, who had succeeded in producing cholera in animals by inoculation with the specific microbe. In the current issue, we publish a letter from our travelling correspondent, who tells us that Koch himself has now succeeded in producing cholera in animals by the inoculation of the bacillus of cholera, and that the comma-bacilli were found in their intestines.

The same letter reports the result of the examination by Koch of the microbes found by Drs. Finkler and Prior in the intestines of cases of cholera nostras or cholera morbus, also referred to in a recent issue. It turns out that the so-called comma-bacilli of cholera nostras proved to be three different species of bacteria, a micrococcus, a rod bacterium,

and a microorganism, resembling the cholera bacillus, but not identical with it, being much thicker and plumper than the latter. So that the threatened overthrow of Koch's theories, on these grounds at least, is averted.

Koch's theory seems to receive support, too, from the paradoxical and empirical treatment of cholera by purgatives which, from time to time, has been brought up and strenuously urged as yielding most successful results. The latest advocate of this method is Dr. George Johnson, who, despite ridicule, even, has strenuously and perseveringly urged his "castor oil" or eliminative treatment. By the use of purgative doses of oil, he proposed to get rid of the offensive morbid secretions of the alimentary canal which contain the peculiar poison of cholera, which, multiplying in the blood, injures certain of its constituents, which are then ejected through the mucous membrane of the intestine. This treatment, it seems to us, is quite consistent with Koch's view of the origin of cholera, and its results appear to give it support; and its efficacy, of course, depends upon the fact that the organisms which infest the wall of the alimentary canal are carried off by the cathartic. Thus this purgative method of treatment, which originally was based on pure empiricism, is now in accord, theoretically, with the latest scientific researches.

REVIEWS.

CORPULENCE AND ITS TREATMENT ON PHYSIOLOGICAL PRINCIPLES. By DR. WILHELM EBSTEIN, Professor of Medicine and Director of the Clinical Hospital at Göttingen. Translated from the sixth German edition by Prof. A. H. Keane, B.A., University College, London. Pp. 89. Wiesbaden: J. F. Bergmann; London: H. Grevel, 1884.

THE fact that a sixth edition of this little book has been called for in Germany, where its author is well known as a physician and pathologist of eminence, renders it worthy of attention in every country where a tendency toward obesity exists. Prof. Ebstein claims that there is no necessity for the rigid abstemiousness inculcated by the so-called Banting system, and substitutes for the semi-starvation methods of Chambers, Harvey, Cantini, and Vogel, a diet in which the carbohydrates are restricted but not prohibited, and into which the fat of meat and butter enter largely. According to his observations, the corpulent may take a certain amount of fatty food without growing fatter, and with great advantage in allaying the sense of hunger which torments patients who submit to any marked deprivation of the saccharine and starchy elements of food.

The illustrative cases and addenda, first appended to this sixth edition, are the results of numerous and protracted observations, which convince the author, not only that corpulency may be effectually checked for a time by the method pointed out, but also that by it the accomplished reduction may be permanently secured.

We recommend the brochure to every physician who may be called upon to treat one of the troublesome cases of polysarcia which from time to time demand our care.

A GUIDE TO AMERICAN MEDICAL STUDENTS IN EUROPE.

By HENRY HUN, M.D., Lecturer on Diseases of the Nervous System in the Albany Medical College. 12mo. pp. 171. New York: W. Wood & Co., 1883.

THIS is a book such as has long and earnestly been wished for, not only by students on this side of the Atlantic, but, perhaps, still more devoutly by many whose brief period of study abroad was still further curtailed by ignorance of what they could pursue to the best advantage after their arrival upon European soil. Its object is to furnish definite information about the different universities, and the way medicine is taught in them, to a student at the outset of his foreign study, at the moment he stands most in need of such aid.

The first thirteen pages are devoted to sound practical advice, expressed in clear pointed phrases, in regard to the modes of travelling, expenses, study of the languages required, and so forth. The remainder of the book is then occupied with a detailed description of the universities in Austria, Germany, Switzerland, France, and London and Dublin, with an appendix mentioning changes in the various faculties which have occurred whilst it was going through the press.

The author's excellent method is to specify the particular claims of a school, as, for example, of Berlin, which is asserted by the Germans to be a centre for more exact scientific work than its great rival, Vienna; the cost and usual mode of living, the names of the different professors and their numerous assistants, with the subjects they teach, also the days, and even the hours, at which the lectures or demonstrations occur. Favorable comments upon these institutions are frequently made, and occasionally a cautious criticism is indulged in, but the due preponderance of facts over opinions is very guardedly maintained, and most readers, whilst thankful for this improvement upon the arid baldness of the official catalogues, will wish that the author had indicated with greater decision what courses of instruction are not adapted to the needs of American medical students. Dr. Hun's unfavorable impression of the French schools is, however, sufficiently pronounced, since he asserts, "The study of medicine in Paris is so much less satisfactory than in Germany, that all American students who go to Europe do the greater part of their medical work in the different German universities, and spend only a few weeks in Paris."

We advise every medical man who contemplates indulging in a season of self-improvement by European study to procure a copy of this volume without a day's delay, lest some of the abundant crop of polyclinics, which our fertile United States soil has produced so rapidly during the past two years, elect its talented author to leading professorships, and then induce him to suppress his maiden effort in authorship on account of its powerful antagonism to their class interests.

SOCIETY PROCEEDINGS.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, October 13, 1884.

THE PRESIDENT, W. H. WENNING, IN THE CHAIR.

THE TREATMENT OF INFLAMMATION.

DR. J. T. WHITTAKER, in opening the discussion, remarked that the subject of inflammation was so vast that it would be difficult for him to make any very concise remarks upon the general treatment, to which he had been asked to confine what he should have to say. In old times the physician was content to call a disease *morbus inflammatorius*, as a diagnosis, and, in our time, we speak of every disease, from a peritonitis to a paronychia, as an inflammation. An apoplexy, an aneurism, an abscess, are all inflammations. In old times, and even when the speaker was a student, it was the custom to look upon an inflammation as the expression of some peccant material in the blood. The belief then prevailed in the existence of certain humors in the blood, and, whether the disease was a rheumatism in the joints, a smallpox, or a pneumonia, it was thought, in the days of humoral pathology, to be due to peccant matter, which should be eliminated by venesection, purgation, diaphoresis, etc. Therefore, the old writers objected to the introduction of quinine. They said that it diminished the fever, and thus did harm, because the fever eliminated the materia peccans in the blood. It was the law then to bleed, and a physician of the Rhine provinces, as late as 1849, had a suit brought against him because he refused to bleed a patient, affected with pneumonia, fifty-six years of age. Diemerbroek said that a patient with smallpox should be shut up in a closed room, heated by big fires; he was not to change his linen until the fourteenth day, and then only to put on the old linen removed before.

After awhile it was noticed that inflammation was usually attended with fever, and the treatment was then directed against the fever. Cold water was largely used. Cold baths became the prevailing treatment, and at present this treatment is again much employed as the most powerful antipyretic, especially in Germany. Perhaps the most scientific advocate of it is Liebermeister. He has shown us to what an extent fever may be reduced by placing the patient in a cold bath. He has shown us that complete baths are of more benefit than partial baths, and that repeated baths of short duration are of more benefit than longer submersions. Liebermeister has shown us by accurate statistics the value of the antipyretic method of treatment in withdrawing heat from the surface, and, as he claims, preventing its formation within the body.

On this theory, the true antipyresis, was introduced quinine, the remedy which ranks next in value. Perhaps no one has shown us more of the action of this remedy than Liebermeister. He has demonstrated that it must be given in large doses to produce any effect; that anything less than a scruple will have no effect at all in reducing the temperature. He has also made comparative studies with it, and has shown that it should be given between the hours of seven in the evening and seven in the morning, in order to have the

most effect; it acts best when the temperature is at its height.

The remedy which is most allied to quinine is salicylic acid, which we now know is best given in the form of a combination with soda, and, in order to make it more effective, we combine it with the bicarbonate of sodium. It also must be given in large doses to produce an antipyretic effect. At least thirty grains should be given, and in Germany they give a drachm—not in one dose, but in doses of fifteen grains every half-hour. It has been shown that if given in this way it produces a much more quick reduction of the temperature. The chief advantage of it over quinine is that it acts more quickly, but it has the disadvantage that its effect is not so permanent. Then comes digitalis. We had our attention drawn to digitalis by Traube. Whether it produces its effect in the same way as these other agents, or by giving greater rest through its action in slowing the pulse, is a question that is still *sub judice*. Veratrum, aconite, and alcohol are antipyretics of much less force.

But, since the studies have been made with antipyretics, a new treatment has arisen—a so-called antiseptic treatment—and the observation has been made that the antipyretics have power in proportion to their antiseptic properties. A large number of experimenters, and at their head the Health Board of Berlin, have worked diligently to show the value of antiseptics, especially of chlorine and bromine, and it is thought by many that the peculiar action of the bromides and the chlorides is due to the liberation of bromine and chlorine in the blood, and the same remark has been made in regard to the iodides. I think it was pretty much admitted when we last met that inflammation, in internal disease at least, is for the most part a mycosis, due to the introduction into the blood of microorganisms and their development there; and, if this be true, the remedies in the treatment of inflammations will rank according to their value as antimycotics. It may be, later, that we shall be able to bring these remedies into the blood in such a form as to destroy the organisms without affecting the tissues of the body. It is a fact now that where the agents are most successful their action does not depend upon the destruction of the organisms so much as the prevention of their rapid production. The attempt is now being made to discover such compounds of chlorine, bromine, etc., as will slowly liberate these agents in the blood. So, if we look upon inflammation as a mycosis, we may sum up the treatment in the one word—antimycosis.

It is hard to discuss a general subject without some special application, and I do not know, the speaker continued, where we could find a better special illustration than croupous pneumonia. This disease has always been regarded as the type of the acute inflammations—local in its origin and course. In its etiology appeal was always made to "taking cold." But Jürgensen showed us, in a series of keen observations, almost purely clinical, that the local and general processes do not correspond in severity, as should be the case in a disease of local origin; that the disease runs a typical course in 64 out of every 100 cases, terminating spontaneously on the fifth to the eighth day, and that it differs in temporal and spatial relations with the diseases that do seem to be due to exposure to cold. Moreover,

that it shows lesions in other organs than the lungs, as in the kidneys, the heart, the spleen, and the brain. Hence, this disease is a constitutional affection, with local expression. It falls under the head of the non-contagious, acute infections, along with malarial and yellow fevers, cerebro-spinal meningitis, etc. Hence, antiphlogistic treatment is worse than useless; antipyretic treatment addresses only the effects of the disease, and at present the only rational treatment is the expectant plan. Jürgensen's views have just met with entire corroboration in the discovery, by Friedländer and Fränkel, of the micrococcus producing the disease, and we now await the only true scientific treatment of the disease in the discovery of some antimycotic that will destroy its cause.

DR. S. NICKLES was in favor of drawing a little more definite line between the treatment of inflammation and the treatment of fever. Inflammatory affections are not always attended by fever; some of the most intense inflammatory affections are not febrile; and, again, we have very intense febrile states of the body in which there is present no inflammation. For this reason he could not see the connection between antipyretic treatment and the treatment of inflammation. In all extensive inflammations there is fever present. How this is produced we do not know, but we know that fever may occur from very trivial causes. The mere injection of water into the blood-current will produce fever, and it has been shown that the blood of a dog, taken from one bloodvessel and conveyed into another, will produce fever; therefore the subject of the treatment of fever has nothing to do with the treatment of inflammation.

In considering the general treatment of inflammation, we must inquire, What effect can be produced upon the inflammatory process by a change of the circulation? Of course, if we assume that inflammation is a mycosis, we will seek remedies which are antimycotics. Many inflammations are mycoses, but many of them are not; in the opinion of the speaker, the majority of them are not. When a part of the body has received an insult, when a wound has been inflicted, low organisms may obtain entrance and intensify the inflammation; but even where the skin has not been broken we may have inflammation. What effect can be produced by modifying the general circulation? So far as the speaker had been able to learn, there are no remedies that will change the condition of the inflamed bloodvessels. If certain that the inflammation is a mycosis, it should be our object to destroy the germs which produce the inflammation, or to prevent, as much as possible, their reproduction, and thus stop any further interference with the nutrition of the vessels. But when the change which we call inflammation has taken place, then we have no power over it, unless it be near the surface of the body, so we can reach it by local means, as we often can do. If it be in the lung, or in the meninges, there is no remedy by which we can reach it. Can we do anything by modifying the amount of blood which goes to the part? Marked changes occur in the bloodvessels. Around the inflamed area the arterioles are dilated, and thus increase the flow of blood to the inflamed vessels of the region, while, in the inflamed area, the vessels are dilated and so altered as to retard the circulation and permit the accumulation of an abnormal amount of blood in the part. Can we modify

the inflammation by changing the general circulation? The older physicians made use of bloodletting on account of its effect on the circulation, and there are still men, eminent in the profession, who are in favor of modifying the circulation in this way, in the first stage of inflammation, before marked exudation has taken place. The speaker thought it impossible, however, to alter the inflamed bloodvessels in an inflamed area by medicinal means which slow the flow of blood, as through the action of *veratrum viride*, *aconite*, and *digitalis*. It was at one time taught that this could be done; that these remedies would not only modify the amount of blood in the part, but would restore the bloodvessels. These remedies do reduce the temperature, but it is by inducing an artificial collapse; by so reducing the heart that it is not able to send as much blood to the part, but the bloodvessels and the quantity of blood in them will not be greatly altered. He further thought that, with the exception of inflammations of the mucous membranes of the alimentary canal, which could be directly acted upon, little or no benefit is to be derived from the employment of cathartics, diuretics, and diaphoretics, intended to reduce the amount of fluid in the body, or from the limitation of the amount of fluids ingested. Especially will these measures be without value when once the inflammatory process has been well established, although they may, in the later stages, aid absorption, as in a pleurisy with effusion.

It did not seem proper to the speaker to separate the general from the local treatment of inflammation. He therefore continued his remarks with reference to the part inflamed. Inflammation, as a rule, is a self-limited process. If an inflammation continue indefinitely, it is because there are influences which keep it up. If the cause be removed, the inflammatory process rapidly subsides. But we cannot always remove the cause, especially those insignificant little germs that get into our bodies without our knowledge, and remain there we know not how long and produce disease, as rheumatism, pneumonia, tuberculosis, etc. In these cases we cannot get at the cause, unless it should be by the use of antiseptics. In rheumatism we can apparently modify the inflammation. Here the heat, pain, redness, and nearly all the swelling subside within forty-eight hours. There can be little doubt that acute rheumatism is a mycotic disease, and that the salicylate of sodium acts directly upon the cause; but we are not certain of this. We know that in specific inflammations mercury will exert an influence, and so will the iodide of potassium have some effect. Now, in the instance of these two remedies, the explanation is very simple. It has been almost demonstrated that the iodide of potassium is decomposed in the blood and the same is probable of mercury. The present view with regard to mercury is that it is merely the carrier of chlorine, which it gives off in an active state. It is further stated that arsenic and iron act by giving off oxygen in the system. Zinc, copper, lead, etc., are, most of them, carriers of oxygen. After removing the cause of inflammation, the next thing is to keep the part at rest. Keeping the part at rest simply influences the circulation; a part in motion becomes hyperæmic, and a part at rest will usually allow the hyperæmia to subside pretty rapidly. The lymphatic circulation may also be influenced by rest. We know that in peritonitis, it is often sufficient to keep

the peritoneum at rest by large doses of opium. In many cases of bronchitis the same is true; the cough and all the symptoms subside, although we have given nothing that acts directly upon the mucous membrane of the bronchial tree.

If the exudations are very abundant in the part, we must act on them, hence the surgeon makes an incision, when pus has collected. We apply cold for no other reason than to diminish the size of the bloodvessels; it is not probable that any other change occurs in the vessels themselves. If the inflammation has spent its force, we apply warmth. The bloodvessels regain their healthy state with an increased supply of blood, hence we apply warmth.

DR. W. W. SEELY remarked that it has been taught for a long time that *aconite* has a very decided action upon such inflammations as those of the tonsil and pharynx. His attention was first called to it by Ringer, who ascribes to it almost specific action upon these affections. If the statements of this author are correct, the speaker saw no reason why it should not exert a similar influence upon inflammation of the ear, although he had had no personal experience in that application of the remedy. In the main, however, he agreed with the previous speaker in the statement that general remedies have little influence upon local inflammations.

DR. P. S. CONNER said that, so far as general treatment was concerned, he fancied that there are but few remedies of much value; but if we consider local remedies, the number is large and the power great. We have to regard three different sets of conditions; those which precede the inflammation, those which are associated with the early stage, and those which are due to the inflammation, with the changes in the part produced by the inflammation. He recognized the great power we have to prevent the development of inflammation, whether the mycotic theory be correct or not. The investigations of the last fifteen years have shown us how much we may prevent the development of inflammation by keeping the parts clean, by allowing free drainage, and by the use of antiparasitic remedies, preventing the action of germs if they are present, and in this way he thought that we can accomplish more than by any other means. By the adoption of remedies with which we are, every one of us, familiar, we can in a great many instances prevent the development of the inflammation. Here come in rest and the removal of the many causes to which reference has been made. The symptoms which are present in every well-marked inflammation, result almost wholly from the disturbance to the circulation of the part. Rest prevents those physiological and functional changes which result in the increased inflow and diminished outflow of blood. We have a very wide range of remedies, mechanical and chemical, but chiefly mechanical, to which we can have recourse. We may also control the inflow of blood very decidedly by acting upon the local circulation of the part by drawing off blood from the part, or, what is perhaps better, preventing by pressure on the main trunk the inflow of blood through the trunk. We may also, by establishing a certain amount of local irritation, control to a certain extent the pressure of blood in the part. Here comes in the value of pressure made at some little distance from the point of inflammation, a method of treatment that is almost as old as the century;

for early in the century, Onderdonk made use of ligation of the artery going to the part. This treatment was revived by Maunder and Vanzetti, of Padua, who substituted digital compression with equally good results. Then we have the application of cold, which acts, as has been said, by constricting the vessels. So far as we know, we have very little proof that the vessels themselves are diseased. In the earlier stages we have great effect produced by cold, but in the later ones it is not so beneficial as heat. We may also lessen the amount of blood that is contained in the affected area by drawing it off to some neighboring territory, by producing local inflammations, or an effusion of serum which constantly produces a depletion of the vessels carrying blood to the part. When we have to deal with exudations, the result of inflammation, we may very materially lessen the effects, products of the inflammation, by so acting upon the overlying tissues as to relieve the tension of those beneath. Every surgeon lets out the pus, which can only do damage by its pressure on the parts around, and by diminishing the amount of blood carried to the parts beyond. We may, by direct pressure, lessen the inflammation, favor the outflow, and aid the absorption, and may also stimulate the lymphatics so that the current through them is increased in force. Then we have the benefit of position, which is often sufficient of itself to save the parts from excessive damage.

There is no question, the speaker said, but that local bloodletting is serviceable in many cases. Every one of us has seen cases which have been benefited by spontaneous hemorrhage taking place. Everyone has seen benefit follow local hemorrhages in cases of visceral inflammations.

The medical pendulum has swung from one extreme to another, and the time when visceral inflammations were treated by profuse and repeated bloodlettings is now looked upon with disfavor, but yet the surgeon is not so much as the physician disturbed by the loss of a pound or two of blood.

So far as local therapeutic applications are concerned, the speaker considered them of value only in so far as they play the part of local irritants. The local application of the tincture of iodine, as ordinarily used, he considered of no value whatever.

DR. NICKLES did not agree with the last speaker in regard to the use of the tincture of iodine. He thought it of great value in many cases, and said that it had an action not only upon the skin, but also upon the underlying parts, rendering them anæmic. He had also much faith in the use of astringents for their effect on the integuments. They have a marked effect, he said, on the bloodvessels of the skin and mucous membranes. He still held to the view that inflammation is due to an altered condition of the bloodvessels. He then cited examples in which the various astringents exert a beneficial action upon the inflammation.

DR. WHITTAKER, in concluding the discussion, said that he was gratified to hear that aconite had no beneficial action upon inflammation, and no action at all upon the bloodvessels affected, for that coincided entirely with his own experience. He had not had any success clearly due to the agent employed in the treatment of inflammation with any remedy not antiseptic. The beneficial action of the tincture of iron in erysipelas, and of the muriate of ammonia in catarrh, is due to the

chlorine which they liberate in the organism. Cold applications do good by diminishing the amount of blood; but the more the blood is diminished, the more diminished is the supply for microorganisms. Rest is of value because it lessens the amount of blood in the part; but the lessening of the blood from rest acts in the same way as from cold. We cannot diminish the amount of blood without influencing the size of the vessel walls, and consequently the amount of their contents. If we admit that rest shuts off the amount of oxygen in the part, the speaker thought that this might be another explanation of its value, for the microorganisms of disease cannot live without that agent. He thought it just as rational to believe that it acts in this way, as simply to say, that it diminishes the amount of blood. Vesication, too, acts on inflammation; there is no remedy so prompt in the relief of deep "bone" pain as the application of blisters. This value could be ascribed simply to the reduction of blood-pressure. But it has been shown that blisters draw off something else than water. It has been declared, as in the article of Bush on kyphosis, that microorganisms evolve chemical poisons. This author goes so far as to assert that blisters aid in the removal of the poison. That seemed to the speaker to be a better explanation than derivation or counter-irritation. With reference to the application of heat, he did not believe that the sudden appearance of the skin, long immersed in water, proved that heat contracts the bloodvessels, but that the vessels long dilated and emptied have become collapsed. Astringents are of value only, and in proportion, as they have antimycotic properties. The best of all antimycotics is the bichloride of mercury, and thus we find the authority for the administration of mercury by our forefathers. For no matter in what form mercury may be given, it always eventuates in the body as a chloride. We can not affect inflamed bloodvessel walls with any drug, that is true, but we may address the cause of the inflammation, and that is rational practice.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, October 6, 1884.

THE VICE-PRESIDENT, S. W. GROSS, M.D.,
IN THE CHAIR.

DR. J. EWING MEARS presented the specimen of a

LARGE CYSTO-SARCOMA OF THE LEFT HIP

removed by operation, and read the following history of the case:

Jas. R., white, single, æt. 20, was admitted to St. Mary's Hospital, August 27, 1884, under care of Dr. J. Ewing Mears. The patient first noticed the tumor about thirteen months ago, when it was about the size of a hen's egg, hard, painless, and the overlying skin natural looking. He paid little attention to it, although it grew rapidly, and it was not seen by anyone else until five months after its first appearance. At that time it was as large as the head of a four months' infant, and the change in patient's figure drew his brother's attention to it, who advised him to consult a physician. He consulted various physicians and surgeons, and quite conflicting opinions were given as to the nature of the tumor, its attachments, and the dangers of operative interference. He was also ad-

vised to live as well as possible, and to enjoy the few remaining months before him, which advice he followed until admitted to the hospital. The tumor, meanwhile, grew rapidly, reaching the size already given in the notes.

On admission his general health was good and his tissues well nourished. On the left hip he presents a tumor (see figure) extending from the great trochanter to $2\frac{1}{2}$ –3 inches above crest of ilium, and 2 inches from middle



line of sacrum behind. The circumference at base is 31 inches; over top from above downward, 15 inches; from before backward, 20 inches. Integument red and glistening, with here and there roughened patches indicating irritation. In front, and slightly below median line, two projections indicating cysts. Fluctuation marked through entire extent of growth. Surface of tumor elastic on palpation; easily depressed; movable on base; succussion distinctly perceptible.

September 10th, Dr. Mears removed the tumor. There were present, Drs. Keen, Grove, Roberts, the house-staff, and three medical students. The incisions were made in the sound skin around the base of the growth, and the tumor rapidly dissected away, proving to have no connection with the bone, but to lie almost wholly in the subcutaneous connective tissue, with some attachments to the deep fascia overlaying the gluteal

muscles. Hemorrhage was great, but mostly from greatly dilated venous channels in the tumor. The growth being very pliable, the cyst ruptured early in the operation, discharging a quantity of brownish-yellow fluid.

Several small vessels piercing the deep fascia were secured with carbolized silk ligatures, while oozing was checked by the use of hot water. An attempt was made to secure relaxation by the use of pins and wires, but failed, owing to the situation of the wound and the struggles of the patient.

The wound was dressed with twenty-four thicknesses of sublimate gauze wrung out in 1 to 1000 solutions of corrosive sublimate, eight dry layers of the same, sublimate cotton, oakum, and broad rollers. The sponges used in the operation were wrung out in 1 to 1000 sublimate solution; hands and instruments were carbolized. The anæsthetic was ether, used in Dr. Mears's apparatus, without vaporizer, which answered admirably.

Patient's condition during operation was good, and he reacted well, though there was for several hours a great discrepancy in the strength of the radial pulse as compared with the heart beat.

Dr. George Dock, Resident Physician, examined the tumor, and made the following report: After removal the tumor contracted somewhat from loss of blood, and the skin lost its dark, shiny appearance, becoming pale and wrinkled. Internally it presents the ruptured cyst wall, and numerous nodules. Around the incision the skin was not involved, and as the tumor was not cut, it has not yet been ascertained whether it was so over the most prominent part of the tumor or not. The nodules vary in size from an almond to a large walnut, and in color from white to a yellowish-brown. They are soft, extremely friable or of loose texture, and rather juicy, the juice being thin, whitish, with fine granular matter in suspension. The lobules are marked off distinctly from the surrounding adipose tissue.

Sections were made of two of the nodules, one white and comparatively firm, the other soft and yellowish. The latter showed a few small spindle-cells, but was in an almost complete condition of fatty and cavernous degeneration. The other, of which sections are shown, is made up of small spindle-cells, arranged in bundles, running in every direction, and with a small amount of intercellular substance. Many of the cells have departed from the typical form, and resemble almost fully developed connective tissue. These characteristics, with the fact of the numerous bloodvessels without proper walls, prove the tumor to be a sarcoma of the small spindle-celled variety. The distinct outlines of the nodules, and high grade of development of the cells, show, in the opinion of most authorities, a slight degree of malignancy, and encourage a favorable prognosis.

The cyst does not show in its present condition, as it did prior to the operation. It was an enormous growth, and there were grave questions in regard to the propriety of operative interference. It was decided, after consultation and careful examination of the growth, that as the man was only twenty years old, and his general condition excellent, he was entitled to a chance. There was some question as to the attachments of the tumor. It was so movable that the general opinion was that it was not attached to the bone or periosteum, or if it had any deep attachment, it was to the periosteum.

At the time of operation, it was found to lie entirely in the connective tissue. The deep fascia of the gluteal muscle and that covering the lower portion of the abdominal muscles, seemed to have served as a barrier, limiting the growth. Even at some points where the fascia was removed, examination with the microscope showed that there was no real involvement.

The removal of the tumor, of course, left an enormous wound. This was dressed with sublimated cotton, gauze, oakum, etc. Since the operation, the wound has almost entirely filled up to the level of the surrounding skin, and is contracting. We have endeavored to secure rapid cicatrization by the use of skin grafts, but thus far only two have been successful.

There are one or two points about this case which Dr. Mears desired to emphasize. He thought that in this case very great benefit was derived from the use of sublimated gauze dressing. The first redressing was done on the fifth day after the operation. At that time, it presented what might be called a beautiful sight. It was as dry as it possibly could be. There was not even that serous oozing which is frequently seen in wounds dressed in this way. Since then, there has been serous exudation, but no pus. The wound was dressed with twenty-four layers of sublimated gauze, and this was covered with sublimated cotton and oakum in the usual way. The patient has at no time had any unfavorable condition.

DR. W. W. KEEN called attention to one point, namely, the necessity for early operations in these cases, when the wound left will not be so large. If this tumor had been removed earlier, it could have been done with greater ease to the surgeon and greater advantage to the patient. In such cases, no skin flap can be used for the covering. He is in the habit of skin-grafting as early as there is a reasonable granulating surface appearing.

DR. S. W. GROSS stated that this man came under his observation last February. At that time the tumor was probably two-thirds of the size which it afterwards reached. It presented certain peculiarities which it did not exhibit when seen by Dr. Mears. It was perfectly immovable and conical in shape. The skin over the mass was discolored. The growth was elastic and imparted the sensation of pseudo-fluctuation. He pronounced it to be a sarcoma. The introduction of an exploring needle was followed by the escape of blood. He considered it a very vascular, small-celled sarcoma, and, on account of its immobility, advised against any operation. If it had been movable, he would have removed it, but with the expectation that it would return. He should not be surprised to hear that before the wound has healed the disease has returned. He did not know what authorities can give such statements with regard to its slight malignancy as are expressed in the notes. This is a medullary sarcoma and is extremely malignant.

According to the specimen, the growth should be called a cystoid sarcoma, not a cystic sarcoma. There is no true cyst. It is a highly vascular sarcoma, portions of which have broken down forming cavities, which were filled with a chocolate-colored fluid. If, for instance, a sarcoma occurs in the breast where there are lacteal glands and ducts, which may become dilated

into cysts, there would then be a true cystic sarcoma. This is, however, a case of cystoid sarcoma.

DR. KEEN said that he did not arrive at the operation until a few minutes after it had been begun, but his impression of the fluid which he saw on the floor, is that it was almost serous in character or slightly brownish.

DR. GROSS said that these extravasation cysts may contain pure blood. Usually the fluid is chocolate-colored containing débris of tissue.

DR. MEARS said that he removed the growth as rapidly as possible. The fluid escaped, but he did not observe its character very closely. He thought, however, that it was brownish-yellow in color.

CINCINNATI MEDICAL SOCIETY.

Stated Meeting, October 14, 1884.

THE VICE-PRESIDENT, DR. ZENNER, IN THE CHAIR.

DR. F. O. MARSH read the following paper on

CYSTIC DEGENERATION OF THE CHORION.

The condition expressed by the above title is also variously denominated Uterine Hydatids, Hydatidiform Mole, Vesicular Mole.

It has no connection, however, with the growth of true hydatids. The condition is rare and the diagnosis not often made, yet cases are liable to be met with in the practice of every physician. It is a subject, also, which has been rather fully treated in obstetrical literature, and its pathological character beyond a doubt determined to be a hyperplasia of the tissues of the chorionic villi in the early months of pregnancy.

It is not the object, therefore, of this paper to enter into a discussion, more than incidentally, of the diagnosis, pathology, or treatment of the affection, but simply to report a case which has fallen under my notice in order to exhibit certain points of comparison with the reports of several cases which have recently appeared in the French journals.

I shall, therefore, first read the history of my own case, which occurred at the Cincinnati Hospital during my service as Interne in the wards of Dr. Wm. H. Taylor, through whose kindness I am permitted to report the case, and to whom I am indebted for various works of reference on the literature of the subject. I shall subsequently, for the sake of comparison, read the reports of the three or four French cases as they were published in the *Gazette Hebdomadaire*, lastly adding a few critical remarks.

CASE I.—Lizzie J., æt. twenty-four years, came into the house on December 11 at noon. The general physique is apparently good. She has been married four years, and her first child, now twenty months old, is now in the hospital for slight diarrhœa, but exhibits no signs of syphilitic taint. The patient herself shows no signs of syphilitic trouble. Had quotidian and tertian fever for one month three and a half years ago. First began to menstruate at fifteen years of age, and had dysmenorrhœa before marriage. She last menstruated in September, three months previous to coming into the hospital. Since menstruation ceased, she has had irregular attacks of vomiting. She now complains of "heartburn," and is unable to retain anything upon the stomach. The feet and legs have been swollen for two

months, and are now markedly cedematous; the hands have been swollen; the face is full and florid; no puffiness of the eyelids observed.

The patient has had headache during the most of her present pregnancy, with attacks of giddiness at times. She was attacked with blindness the day before coming into the house. She has been much distressed lately in reference to domestic affairs, and her manner is restless and irritable. She seems to be generally hyperæsthetic, complaining especially of any manipulation of the abdomen; has had epistaxis and hæmoptysis at irregular intervals, and thinks she passes less urine than normal. There have been no discharges of any kind from the vagina till three days ago, when she began flooding without any assignable cause, and had uterine pains resembling those of labor. From this attack she partly recovered, but became worse again last night. No flooding or pain exists at present. Pulse 92; temperature 98.4°; respiration 32, and labored. Uterus extends to umbilicus. No foetal heart-sounds or uterine bruit. Vagina lax, cervix high up, and os closed. In view of the restlessness, abdominal tenderness, and previous hemorrhage, she was ordered to be kept quiet in bed, and one-sixth of a grain of morphia was administered. At a later hour on the same day, five P. M., the urine was found to be heavily loaded with albumen, and to contain hyaline casts. The patient was found to be suffering from blinding headache and irritability of the stomach. Regarding her condition as strongly uræmic, vigorous treatment was instituted to meet the indications in the shape of pilocarpine hypodermically, the hot pack, laxatives, and chloral per rectum.

December 12.—A. M. Pulse 120; temperature 98.4°; headache gone; complains of feeling hungry, but can retain nothing upon the stomach in the shape of food. Ordered cream of tartar lemonade freely. Dr. Mackenzie, of the medical staff, was called in consultation. There was a slight præ-systolic cardiac murmur at the apex, and moist râles over the right back. Ordered tincture of digitalis and small doses of quinine every three hours. Slight improvement in the general condition was noticed. Two days after her admission, however, abortion again threatened, with moderate hemorrhage, but the symptoms subsided.

Finally, on December 15th, four days after coming into the house, the hemorrhage and labor pains returned. The bleeding was moderately severe, and digital examination showed the os the size of a twenty-five cent piece, and the presenting part soft and boggy. Though no pulsating vessels could be felt, the case was regarded as one of placenta prævia, and the finger was passed within the os internum and swept around the lower segment of the uterus detaching the mass as far as possible. An unsuccessful attempt was then made to introduce a Barnes's bag of small size. A tent the size of the index finger was finally introduced through the speculum. During this manipulation I noticed three or four cysts, resembling frog-spawn, adhering to the finger. The diagnosis of hydatid mole being at once made, the uterine contents were lacerated as far as possible with the finger, and soon after the whole mass was expelled, in three or four fragments, filling the half of a large wash-basin. Ergot was given and the uterus contracted well.

The case after this progressed favorably for four days. The general symptoms were ameliorated. Isolated masses of cysts with clots and blood at times continued, however, to be discharged irregularly. The cardiac murmur was found to be variable, and the uterus continued tender. However, in spite of the routine precautions of the house against sepsis, she was seized on the fourth day with chill and fever, offensive lochia, and great restlessness. The patient gradually fell into a typhoid condition, and died fifteen days after delivery of the mole.

The autopsy showed the pleural cavity on the left side to contain about half a gallon of purulent lymph, the lung being almost completely compressed. In the peritoneal cavity were found lymph, pus, and adhesions. The heart was soft and flabby, showed brown degeneration well marked, the valves being normal. The uterus six inches long, two and one-half inches broad, mucous membrane roughened and uneven, and at one place seemed to have given attachment to the placenta. The ovaries were both enlarged to the size of an ordinary kidney and cystic. The ureters on both sides were dilated from obstruction caused by pressure from the enlarged ovaries. The kidneys were slightly enlarged, and somewhat pale. It may seem surprising that the condition of the pleural cavity was not noted in the clinical history. It is to be remembered, however, that the thorough physical examination of the chest was made twenty days before death. Repeated examinations were abstained from, as the patient was intolerant of manipulation. After the uterus was emptied the respiration improved, and though cyanosis developed at the last, it was considered to be due to valvular trouble. This view was justified by the uniformly rapid pulse, and the cardiac murmur.

The following are the essential points in the history of three cases published in the *Gazette Hebdomadaire* for December 7, 1883, by Dr. E. Verrier, consulting physician at the Eau de Chateaufort. The first case was that of a young woman aged twenty-one. At the fourth month of her first pregnancy she experienced a serious mental shock, caused by the separation of her husband, who was a soldier and had been ordered away with his regiment. She was seized with flooding at that date, which continued irregularly for forty-five days, when, at five and a half months of gestation, she gave birth to a vesicular mole, showing no trace of foetus or placenta. The mass came away in fragments, and débris was discharged subsequently. Before delivery the urine was found to be highly albuminous. The patient was seized with puerperal fever, and died, six weeks after delivery, of a purulent infection.

In the second case the age of the patient is not stated. Pregnancy was interrupted about the fourth month, as in the previous case, by mental disturbance. Flooding and attacks of uterine pain continued irregularly for a little over forty-five days, when she gave birth to a mole, in which, however, there still remained about one-eighth of the normal placenta. The uterine cavity was emptied clean without difficulty, and the patient made a good recovery. No albumen was noted in the urine. The author emphasizes the following points in the history of these two cases:

1st. In the two cases we see the pregnancy arrested by some strong emotional disturbance.

2d. Persistent flooding supervened on the moral shock and resisted all ordinary means of treatment.

3d. Chorionic degeneration took place in both cases, the mole being carried about the same length of time in both instances.

The author attributes the more favorable result of the second case to the fact that there still remained some of the normal placenta, the conditions consequently approaching somewhat a normal delivery, the uterus being emptied more completely and without subsequent débris.

The third case was that of a woman aged forty-five—the mother of two children. He saw her at the fifth month of pregnancy on account of persistent vomiting, which the attending physician had been unable to control. The vomiting yielded temporarily to leeching the cervix. She was subsequently delivered of a vesicular mole.

In drawing conclusions from this last case, Verrier says: "Authors have assigned other causes to this condition, but none, so far as I know, have called attention to advanced age in the patient, to which I now direct the attention of the profession." Spiegelberg, however, in his *Obstetrics* (1877), says: "From Bloch's collection of twenty-eight cases, it would appear that advanced age in the patient offers a greater predisposition to the affection than the mere number of pregnancies, primiparæ, however, being seldom affected."

Verrier, also, in reviewing this last case, quotes Sir E. Home as placing persistent vomiting among the probable causes of this peculiar degeneration. He coincides with Home's views in the following terms. He says: "It would be interesting to know whether the vomiting is due to the presence of the mole, or *vice versa*. As for myself, I am inclined to think that the vomiting acting mechanically gives rise to small disseminated hemorrhages in the placenta, thus causing a partial separation of that body at a level which produces alterations of the chorionic villi without any visible flooding."

Before discussing the merits of this theory, I desire to present the history of another case, published also at a little later date in the same journal by L. Dulac. The report was elicited on account of the resemblance of the case in several points to the three cases published by Verrier—advanced age and uncontrollable vomiting. It will be seen to correspond still more closely with the history which I first presented to you.

"The patient was aged thirty-seven; had been married eighteen years, and had never borne children, though perfectly regular. Three months previously menstruation had ceased, and shortly thereafter œdema of face and ankles appeared. Fifteen days after the appearance of the œdema vomiting commenced, which was repeated daily; the general health, however, continuing relatively good. During the second month flooding commenced, and recurred quite frequently; without, however, proving especially detrimental to the general condition. Almost simultaneously with the metrorrhagia, headache and attacks of dyspnoea supervened. On July 25, the date of my first visit, the patient had slight flooding; face puffy; eyelids œdematous; œdema of the legs extended to the knees. Vomiting existed, but no diarrhoea; vision was impaired, temperature normal. The breasts were enlarged, and

yielded a milky serum on pressure; uterus enlarged, and cervix soft; urine loaded with albumen; foetal movement and heart sounds absent.

"The diagnosis of pregnancy with albuminuric nephritis was made, and treatment directed to the uræmic condition was instituted. Improvement took place under the treatment, but later she was seized with an attack of complete blindness, which was determined to be of uræmic origin; from this she recovered. At the fifth month of gestation, without assignable cause, the patient was seized with severe flooding and labor pains, and was delivered of a vesicular mole, containing a small portion of the normal placenta, which latter showed numerous small hemorrhagic foci. Vesicles and *débris* were discharged for several days, and the patient had symptoms of septic fever. Seventeen days after delivery, she was seized with an eclamptic attack. She recovered consciousness with a hemiplegia, which slowly disappeared, and she made a fair recovery."

Dulac propounds the question whether the uræmia is primary or secondary to the chorionic degeneration. He says, "I believe that in the present case the formation of the mole was secondary to the uræmic troubles and the vomiting. The vomiting, acting mechanically, and the blood changes incident to the nephritis, seem to me sufficient to account for the formation of the hemorrhagic foci alluded to." He concluded that we are justified in adding a new cause of vesicular mole to the usual list, viz., early uræmia and the dependent accidents.

In offering a different view of the causal relations existing in the chain of phenomena which have been traced in the clinical histories presented I would call attention to two circumstances which, it seems to me, have not been sufficiently emphasized in this affection.

1st. The effects of an abnormal rate of distention of the uterine cavity.

2d. The abnormal relations existing between the uterine mucous membrane and the uterine contents. The fact is well recognized and is exemplified in the cases here presented that the uterus in a case of vesicular mole is generally larger than is normal for the corresponding period of gestation. The capacity also of the abdominal walls, no doubt, fails to keep the normal pace with the uterine enlargement and the pressure-effects which often produce the well-known disturbances in the economy even in normal pregnancy, are correspondingly enhanced. As a consequence, there are apt to arise marked lumbar and sacral pains, tenderness over the uterus, fibrillary and irregular contractions of that body. Montgomery mentions cases in which crawling and tapping sensations, most probably due to such irregular contractions, were marked. Such a state of the uterus, combined with the abnormal state of the vessels of the mucous membrane predispose to hemorrhage, both concealed, causing the hemorrhagic foci noted in some cases in the undegenerated portions of placenta, as well as the visible flooding.

A further effect of pressure as revealed by the autopsy of the first case presented to you was marked obstruction of the ureters. Although the enlarged ovaries were found in contact with the ureters, I cannot resist the impression that the additional pressure caused by the rapidly enlarging uterus added to the obstruction and largely determined the uræmic condition.

In this connection it is interesting to note a quotation from Lusk in his *Obstetrics*, p. 531. In treating of the albuminuria of pregnancy he says: "Löblein examined the records of thirty-two autopsies made upon eclamptic women and found in eight or twenty-five per cent. that dilatation of one or both ureters coexisted with renal disturbances. He therefore pertinently inquires how far simple mechanical obstruction of the ureters may explain the apparent development of uræmic manifestations in certain cases without the warning furnished by albumen in the urine."¹

He does not state how the obstruction was produced. Doubtless it was due in great measure to pressure from the gravid uterus, and if so, should we not look for such effects much more in a case of rapidly expanding mole? Verrier and Dulac, in their conclusions, have attributed much importance to mental shock, and the succussion caused by persistent vomiting as causative agents in this degeneration.

If the conclusions of Underhill, as quoted by Lusk, are true—that the formation of hydatids cannot commence later than the third month—we are almost forced to abandon the idea held by the above authors that the inception of the disease in two cases was due to an interruption of pregnancy by mental shock at the fourth month. From the examination of the reports of various cases, I am inclined to think that there is often a peculiar mental irritability which would predispose to any moral shock. The persistent vomiting, from what has been said, might well be regarded as secondary.

The second point emphasized in the beginning of the discussion, viz., the abnormal relation between the uterine mucous membrane and its contents, besides contributing so largely to the general condition of irritation which we have noticed, also furnishes the predisposition to septic troubles which has been noted after delivery. Cases have been noticed after death in which the uterine walls had been invaded so extensively by the growth that they resembled the *columna carnea* of the heart walls. Even death from uterine rupture has been observed in these cases. Finally, the conclusions advanced in this paper, in regard to the usual sequence of events in these cases, are not to be accepted as universal, but only as exhibiting certain strong tendencies. The uterus may be smaller than in normal pregnancy, and a case has been published by Dr. Cleveland (*Obstetrical Gazette*, 1883) in which shortness of breath, palpitation, persistent vomiting, and œdema of the legs and face occurred without any unusual enlargement of the uterus. The patient was subsequently delivered of a mole, and recovered.

DR. MACKENZIE said that one point of great interest

¹ Since the above paper was written the attention of the writer has been called to the excellent paper by Dr. Halbertsma, published in the Volkmann Lectures, 1883, on the "Ætiology of Puerperal Eclampsia," where the idea of obstruction of the ureters as a cause of puerperal convulsions is fully elaborated. The precipitation of convulsions in the majority of instances during labor, Halbertsma attributes mainly to anæmia of the uterus during contraction, and consequent collateral hyperæmia of the kidneys. Considering the anatomical relations existing between the ureters and the cervix uteri and upper part of the vagina to which he calls attention, may it not be due to an acute stretching of the ureters incident to the expansion of the cervix in the process of labor?

in this case was the excessive rapidity of the respiration. This was inexplicable by the future course of the case or the post-mortem examination. The pleurisy and pericarditis came on at a later period, and hence could not be considered as the cause. These cases of cystic degeneration are exceedingly perplexing. In a case the speaker had seen, the woman declared that she had only gone two months, and yet the size of the uterus indicated a much longer period of gestation. Soon afterwards all was made clear by the expulsion of a mass of cysts. There was no hemorrhage in this case, and the patient made a good recovery.

DR. ZENNER asked if the condition of the kidneys would not explain the trouble with the respiration:

DR. CARSON asked if there was not some weakening of the heart walls which might throw light upon this point.

DR. MARSH asked if rapid respiration does not occur in some cases of normal pregnancy and subside after delivery.

DR. EICHBERG said that such rapid respiration in pregnancy should excite grave apprehensions. With regard to the pathology of hydatid formations, it is difficult to understand how a mental impression received three or four months after conception is presumed to have taken place, should so pervert the nutrition of the ovum as to lead to the formation of a mole. It is much more likely that the pathological process begins immediately after impregnation has taken place, and that the ovum is diseased almost from the first. Some researches published by Slaviensky, in Virchow's *Archiv*, seem to support such a view. In examining into the pathology of the Graafian vesicle, he examined the ovaries of females of all ages, beginning with the last few months of embryonic life, and terminating after the menopause. He found, in some of these cases, that the ovaries of children two or three years old presented colloid changes of the Graafian vesicle, which always seemed first to invade the epithelium. In the membrana granulosa the single cells lost their distinctive outline, became swollen, and finally fused into a homogeneous, structureless mass. In some cases the change had attacked the ovum proper, and in others had destroyed even the germinal vesicle.

It does not seem impossible that the impetus given by impregnation to an ovum, morbidly altered in this way, may result in the formation of a large amount of colloid material arranged in the well-known form of a hydatidiform mole.

DR. MARSH said he had in mind some neurotic element, when he spoke of rapid respiration in normal pregnancy.

DR. TAYLOR said that he had reported a case to this Society several years ago, in which the respiration was affected by such a cause as Dr. Marsh had mentioned. The woman had very rapid respiration as well as complete anæsthesia of the skin—pins were plunged into the skin without pain to her. Nothing abnormal could be found upon examination of the thorax.

DR. MACKENZIE said that in the case reported by Dr. Marsh, the rapid respiration could not be referred to a neurotic cause. There was no hysteria in the case. Nor could it be explained by the condition of the kidneys. In the case reported, the respiration was rapid

and shallow, while in uræmia it is slow and difficult, somewhat like that of asthma.

DR. EICHBERG said that with regard to the clinical aspect of these cases there is one point which should attract our attention, that is, the possibility of mistaking them for cases of placenta prævia. It is true that most cases of uterine hydatids terminate by spontaneous expulsion, at or before the fifth month, and that the placenta is not then so largely developed as to produce alarming symptoms in the latter case. But the presentation of a boggy mass at the os uteri, the inability to feel any presenting part, and the continuance of hemorrhage, are important features common to both cases.

The difficulty of diagnosis would manifestly not influence treatment very materially, for, should the hemorrhage continue, there would be urgent indications for speedy and complete emptying of the uterus.

Lately a case occurred in the practice of the speaker which, he thought, was undoubtedly one of uterine mole, though he was unable to see any of the expelled mass. About ten days after the time of the usual menstrual period the patient, after making some exertion, noticed a slight hemorrhage, which she supposed to be a return of the catamenia. Upon the following day the hemorrhage became much more profuse, and there was expelled from the vagina a solid mass, composed, as the patient said, of small bodies resembling the immature eggs of a chicken.

The hemorrhage continued, and the speaker saw her, for the first time, a week after the accident. The uterus was low down in the pelvis, the fundus enlarged, and the organ in a condition of marked retroversion, the external os barely admitting the tip of the finger and filled with a bloody mucus. The hemorrhage continued, in spite of absolute rest and repeated intra-uterine injections of tincture of iodine, solution of perchloride of iron, the application of nitrate of silver, and the internal administration of ergot, about three weeks, being apparently arrested for a day or two, and then again returning as before.

Finding these measures unavailing, he finally dilated the cervix with a carbolyzed sponge-tent and scraped the inner surface of the uterus with a sharp curette, removing some shreds of membrane from the roughened and uneven fundus. The hemorrhage was arrested, and the woman menstruated normally about three weeks ago.

It may be added that in the first month the gastric uneasiness, and other symptoms peculiar to former pregnancies, were noticed by the patient, but no particular attention was paid to them after the bleeding once occurred, because she supposed this to be a return of menstruation.

NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

THE HYDROCHLORATE OF COCAINE EXCITEMENT bids fair to rival that which marked the introduction of hypodermic medication and antiseptic dressing. Two weeks ago the quantity of the salt in New York amounted to only a few grains, which was in the possession of a Third Avenue druggist, who has retailed a

two per cent. solution for one dollar an ounce. Dr. Knapp and others have tried the salts of theine and caffeine, and less expensive substitutes, with no results thus far.

THE RHINELANDER CASE.—Recorder Smyth has just declared his opinion in the Rhinelander case, finding the prisoner sane. Rhinelander, who shot the family man of business, whom he accused of having undue familiarities with his wife, was clearly a homicidal monomaniac, as the testimony showed. His appearance and behavior in the court room resembled that of Mr. Meredith in Philadelphia, so far as ingenuity is concerned, and his long cross-examination convinced the newspapers and court hangers-on that he was sane. Large contributions poured in for his defence, and one of the commissioners, who has subsequently been nominated for judge, was so afraid of public opinion that he disagreed with the two other members of the commission, one of whom was a doctor, and brought in a verdict of sanity. Drs. MacDonald and Hamilton testified to his insanity, and the jail physicians who watched him daily concurred in their opinion, detailing certain perfectly clear evidence of paresis, etc. Two or three physicians, however, took the popular side, and contradicted them. One of these "experts," of Milesian extraction, testified that he had "tistid his pronooncyāshun" and found it perfect. The proceedings were a farce, and once more illustrate how difficult it is to advance scientific truths if they do not meet the demand of popular approval.

DR. AUSTIN FLINT, JR., after a period of many years devoted exclusively to physiology, has resumed the practice of his profession.

MR. VANDERBILT'S GIFT.—The princely gift of \$500,000 of William H. Vanderbilt to the College of Physicians and Surgeons was made last year, but was kept a secret, as the faculty were in negotiation for land in the upper part of the city.

THE "HOT WATER TREATMENT," which has been the fashion among the large contingent of hypochondriacs and neurasthenics for some time past, formed the subject of a paper the other evening before the Academy of Medicine, its efficacy in nervous diseases being considered, and the reader reported cures of posterior spinal sclerosis. In the discussion that followed, a medical gentleman from San Francisco became exceedingly facetious, accusing Dr. Ranney of being in league with St. John, the Prohibition candidate, and suggesting that, after all, the paper was prepared for electioneering purposes.

THE HARD TIMES have not been without their effect upon the profession. Not only have the receipts of lawyers and medical men fallen off, but numerous cases of destitution are met with on every hand.

WHEELING.

(From our Special Correspondent.)

CONSTITUTIONALITY OF THE STATE LAW REGULATING THE PRACTICE OF MEDICINE.—The Court of Appeals of West Virginia, on Nov. 1st, delivered its opinion that the law regulating the practice of medicine and surgery "is constitutional and valid."

The learned opinion, delivered by Judge Green, is a

broad one, and at once places the State Board of Health on high legal ground.

CHICAGO.

(From our Special Correspondent.)

CHICAGO GYNECOLOGICAL SOCIETY.—In conformity with ancient custom, the members of the Society met on the 31st of October, at the residence of the retiring President, A. Reeves Jackson, M.D., and were entertained at an elegant banquet. After the banquet, the President called the Society to order, and the following officers for the ensuing year were then elected:

President.—Dr. H. P. Merriman.

Vice-Presidents.—Dr. E. C. Dudley and Dr. Charles Warrington Earle.

Secretary and Treasurer.—Dr. Edward Warren Sawyer.

Editor.—Dr. W. W. Jaggard.

After an appropriate address by the retiring President, the Society adjourned to meet Friday, November 21, at the residence of Dr. C. W. Earle.

ZURICH.

(From our Travelling Correspondent.)

CHOLERA NOSTRAS PERHAPS IDENTICAL WITH ASIATIC CHOLERA.—The theories of Prof. Koch, which by this time are familiar to your readers, and therefore need no repetition here, suffer a certain check from a number of investigations made by Prof. Finckler and Dr. Prior, of Bonn. These were reported at the meeting of German Naturalists and Physicians (Versammlung Deutscher Naturforscher und Aerzte) in Magdeburg twenty-five days ago, and would have been reported by me then, had I not awaited further developments, which, to my knowledge, however, have so far not been made public.

The rumor that in the stools of cholera nostras a bacillus had been discovered nearly identical with the one found by Koch in Asiatic cholera dejections, attracted to the place of meeting of the section of medicine a large crowd of physicians.

Prof. Finckler stated that lately there occurred in Bonn about thirty-two cases of cholera nostras in a space of six weeks, the disease in its severity resembling in many ways its epidemic sister of Asiatic origin.

At the outset nothing was found in the dejections resembling a bacillus which might be considered the exciting cause of the disease. As it progressed, however, whole nests of bacilli were discovered which bore a great resemblance to the bacillus discovered by Koch in cholera stools. These bacilli could be cultivated on potatoes, milk, gelatine in the same manner as Koch's bacillus; their reaction to coloring matter was the same; and their appearance, twenty-four to forty-eight hours after the commencement of the disease resembled in a striking manner the history of those observed in Asiatic cholera. Finckler also made discoveries in his sterile cultures which have not been observed by Koch. He found long or thick threads (fibrils), which, at a certain period of their existence, acquire a bulbous extremity, and then in a short time are disjointed into large numbers of small bacilli. He also found peculiar forma-

tions, of whetstone shape, resembling the spores of erysipelas coccus. These forms can frequently be seen to originate from the bacilli, and dark spots are formed within them, from which again springs a new crop of bacilli.

Finckler stated that he would not assert absolute identity of his bacillus with that of Koch, but repeated the above-mentioned reasons as pointing toward it. His supposition was strengthened by observing small dark spots resembling the bulbs of his fibrils in the photograph of a specimen obtained in Marseilles from an individual who died from Asiatic cholera, which specimen had been declared characteristic by Koch himself.

The pathologists who examined Finckler's specimens acknowledged the striking resemblance. Huepper, of Weisbaden, however, urged the difference in their development, and the fact that in the cultures of Koch's bacillus so far neither fibrils with bulbous extremities nor spores had been demonstrated.

I have been induced to submit this sketch to the profession in America because we may soon have to look ourselves for pathognomonic signs of the dread disease in our own country. It will be important to follow the investigations and discussions of the subject by the distinguished German pathologists, especially so for quarantine physicians and boards of health. Finkelnburg, at the Congress of the Hague, intimated severe censure of the physicians in Toulon for not having at once made microscopic examinations, and, by recognizing the disease, enabled the authorities to hedge it in. This censure is somewhat unjust, in the light of these latest discoveries, which tend to show that the presence of bacilli is not an absolute proof of Asiatic cholera.

Still it is to be hoped that if the two diseases are of a really distinct nature, within a short time the difference in their microbes be clearly established, so as not to rob us of the beneficial results which Koch's discoveries seemed to have for the identification of the epidemic form of cholera in its infancy.

The purpose of these lines will be fulfilled if they induce our pathologists to follow this latest phase in cholera history very closely, and to enlighten the profession in general as soon as more light has been thrown on the subject, with consequent results of practical value.

THE LATEST DISCOVERIES OF PROF. KOCH CONFIRMING THE EXPERIMENTS OF NICATI AND RIETSCH; CHOLERA PRODUCED IN LOWER ANIMALS BY INOCULATION OF THE COMMA-BACILLUS.—In a preceding note were related the investigations of Prof. Finkler on the bacillus he found in the dejections of cholera nostras which he believed to be identical with the comma-bacillus discovered by Koch, thus tending to prove that the bacillus is not the elementary cause of Asiatic cholera. Since then I have learned that Pettenkofer, the great chemist of Munich, in expressing his disbelief of Koch's theory, offered to sacrifice himself by swallowing any number of these bacilli. In justice to Prof. Koch, and to the medical men who are no doubt following these discussions with almost breathless interest, I now hasten to give the latest phase of experiments.

Prof. Koch has made an additional and great discovery concerning the origin of cholera. After numberless failures, he has finally succeeded in transferring

the comma-bacillus to animals and producing cholera in them.

Up to the present time it appeared an established fact that animals showed absolute immunity against cholera, and the experiments which had been made by Koch in Egypt and India on mice, rabbits, chickens, monkeys, etc., to demonstrate by inoculation the dangerous character of the bacillus, had utterly failed. The final and crowning proof of Koch's theory was, therefore, lacking. All the other proofs were, however, so convincing that in the Cholera Conference held at the office of the Imperial Board of Health, under the presidency of Virchow, the comma-bacillus was unanimously recognized as the cause of cholera. Nevertheless, this view was combated from various sides. It now happened, four weeks after Koch's return from Marseilles, that news was received of the successful inoculation of the comma-bacillus on animals by two physicians of the Hôpital Sémaphore, Nicati and Rietsch, who had learned from Koch the mode of discovering the microbe. This news was received with some doubt, coming from France, where so many erroneous communications on the subject of cholera had originated, the more so as some important data were lacking. They are, however, now confirmed by experiments successful in Koch's own hands. He inoculated this week from sterile-cultures rabbits with living bacilli; the animals sickened and died with the symptoms of cholera, and at the autopsy the comma-bacilli were found in the intestines. This is an indubitable proof that these bacilli are the only cause of cholera, and Koch's success is secured in every direction. It may well be imagined that this discovery is producing vivid satisfaction among professional men.

NON-IDENTITY OF THE BACILLUS OF CHOLERA NOSTRAS AND THE COMMA-BACILLUS OF ASIATIC CHOLERA.—Another discovery, the finding of the comma-bacillus in cholera nostras, has caused great excitement these last few weeks, tending, as it were, to overthrow Koch's theories. Prof. Finkler and Dr. Prior, of Bonn, who claimed to have made this discovery, and reported it at the meeting of German Naturalists and Physicians in Magdeburg, went to Berlin and exhibited their specimens to Prof. Koch at the office of the Imperial Board of Health. Koch confirmed their view of the presence of microbes resembling the comma-bacillus, but requested that they send him sterilized cultures. They were received last week; the so-called comma-bacilli, however, proved to be three different species of bacteria—a micrococcus, a bacteria of rod-like appearance, and a microorganism really resembling the comma-bacillus. These have no relationship with Koch's comma-bacillus, and the last of the three especially was much thicker and plumper than the more delicate comma-bacillus of Asiatic cholera.

CHOLERA AT MARSEILLES.—The United States Consul at Marseilles has forwarded to the Department of State the following additional interesting details concerning the cholera outbreak at Marseilles.

Gradual decline of the epidemic with a temporary recrudescence.—On the 11th of September the deaths from cholera in Marseilles having declined to an average of three daily, the Mayor directed that the publication of the death-rate by the newspapers should cease. This

was in order to eliminate the subject of cholera, as far as possible, from among the topics of every-day comment, and confirm the impression that the epidemic, so far as it concerned Marseilles, was at an end. But within less than a week from that date the weather had become warm, and under this influence the disease had so far revived that on the 18th the choleraic deaths numbered seven, and as popular rumor quickly outran the facts, the daily publication of the mortality list was resumed. Five of the seven fatal cases which occurred on the 18th were sailors or stevedores from the French bark "Resolu," and the circumstances attending the simultaneous attack by the cholera were so extraordinary as to merit notice in this record. The "Resolu" arrived on the 3d, from Reunion, with a cargo of sugar. Her crew were at once discharged, and left for their homes in the north of France. Eleven days afterwards a gang of men, hired in this port, were put on board and began discharging cargo. Within a few hours five of the men thus employed were seized with cholera and died. The vessel was then sent to the quarantine station and thoroughly disinfected. Three others of the men employed on board in discharging the cargo have since died of cholera. The "Resolu" had made a voyage of one hundred and ten days from Reunion, where, so far as is known, not a single case of cholera has occurred this season. There was no illness on board during the voyage, and the captain, who alone remains on his vessel of all who made the voyage, has not been attacked, although he has been repeatedly in the hold, the atmosphere of which seems to have been fatal to the stevedores. The eight men who perished were healthy, robust laborers, mainly Italians, who have been in Marseilles during the entire epidemic, and were, therefore, fully acclimated to the infected atmosphere of the ports. They lived in different quarters of the city, and all were attacked almost simultaneously. The ship had not been exposed to any known choleraic influence more than that which surrounds every vessel which is moored for a fortnight in this infected port, and this incident adds one more to the long list of unexplained phenomena which make the record of this eventful summer.

Methods of transmission.—Keeping still within the definite limit of established fact, it is to be noted that this year has witnessed the utter failure of the quarantine system, as practised by Mediterranean countries. At the first signal of danger from Toulon and Marseilles, Italy established a rigorous quarantine by both land and sea against France and even Switzerland. And yet, cholera has spread to nearly the whole of Italy from Turin to Naples. Corsica imposed a quarantine against all arrivals from every mainland port of the Mediterranean which for barbarous rigor recalled the middle ages. But even Corsica has not escaped. The cholera was brought to Spezzia by Italians from France, who had undergone fifteen days' quarantine, and are believed by many to have propagated the disease during the long detention in the crowded, dirty, ill-kept lazaretto of the frontier in which they had been quarantined.

Similarly the disease was carried to Alicante, in Spain, by a family from Cette, in the consular district of Marseilles, which reached Spain by steamer via Algiers, after having undergone a quarantine of seven

days on the African coast. The outbreaks at Arles and les Omergues were kindled by people coming directly from Marseilles, and it is among the notable facts of this year's epidemic that it has been relatively more fatal in many small villages than in the large cities. For instance, the maximum record of deaths in one day at Marseilles was 74 out of a population reduced by emigration to say 300,000; this would be a proportion of about 1 in 4000. At Naples the 400 deaths recorded in one day represent only 1 fatal case to about 1000 inhabitants, while at Prades, a village of 3500 souls, in Southern France, the daily death-rate has been as high as 1 to each 300 of the inhabitants. At Arles the death-rate from the 17th of July until the 6th of September averaged about 1 daily to each 1000 inhabitants remaining in the city.

Scientific experiments and conclusions.—Soon after the outbreak of the epidemic the "Société Nationale de Médecine," of Marseilles, appointed a committee comprising seven of its principal members, all leading physicians of this city, with instructions to undertake a series of careful and thorough experiments, with a view of adding, if possible, something definite to the sum of what had been previously known concerning the real nature of cholera and the best methods of preventing and treating it. This committee has enjoyed the fullest opportunities at the hospitals and in private practice, and the results of its labors are announced in a report presented by Prof. Ch. Limon at a recent meeting of the "Société Nationale." The report is too long, and its phraseology too technical, to be transcribed verbatim here, but its substance is as follows:

The experiments of the Committee were of two classes, the first being made with the dejections, vomit, and bed-linen of choleraic patients in all stages of the disease; the second having solely reference to the blood. The results have, therefore, a direct bearing on the fundamental question whether cholera is a disease of the digestive organs, and is transmitted in substances swallowed, or, on the contrary, a disease of the blood, the contagion of which is inhaled by the lungs.

In the first group of experiments the rice-water dejections and matter from the stomach and intestines of cholera patients, as well as concentrated wash water in which freshly soiled linen from their beds had been cleansed, were injected into the stomach and the intestines, the diaphragm and femoral artery of various rabbits, dogs, and guinea-pigs. No fatal injurious effect was produced in any case, except one, in which a rabbit into whose stomach intestinal matter filled with the comma-shaped bacilli had been injected, died eleven days after the operation, without, however, evincing any symptoms characteristic of cholera. Upon dissection the intestines of the animal were found filled with the microbes, showing that they had found there favorable conditions for development. It was thus proved that the so-called choleraic microbe can be propagated in animals without producing any disease analogous to cholera. The hydrant water of Marseilles and the purest spring water in this neighborhood were both found to contain the "bacille virgule" in the proportion of 250,000 per litre, and this large number was not sensibly reduced by passing the water through three layers of filter paper. It is, therefore, concluded that the so-called cholera microbe is simply a harmless ani-

malcule common to most river and spring water, and equally abundant in localities where cholera is unknown.

The second class of experiments was with the blood of cholera patients, taken at various stages of the disease and injected into the veins of animals and examined under the microscope; of 28 injections made with blood taken, 1, from a cholera patient at the beginning of the "algid" period; 2, from the corpse of a person who had died in the same stage; and, 3, from a living patient in the later or reaction stage of the disease, 2 only had a positive result.

These were the cases of two rabbits into whose veins had been injected blood taken from a cadaver which had died in the "algid" stage. Both animals died, one after twelve, the other after eighteen hours, and the blood of both showed the same lesions and changes which had been established as having occurred in the blood of human cholera victims, and which the report describes as follows:

"One of the alterations which, on account of its occurring constantly, appears to us to be of supreme importance, is that which affects the globules of the blood. The particular feature of this alteration is that it does not affect all the globules simultaneously, but, on the contrary, there may have been seen, particularly in rapid cases, globules radically altered, side by side with perfectly sound globules, preserving their normal disposition in the shape of a pile of coin. The alteration consists in a softening of the globule from which there results deformation, produced by reciprocal pressure and an agglutination of the globular masses, all the more marked as the period is more advanced.

"Then, if a current is made to run over the plate under observation, the unsound globules are seen to flow like fluid lava or melted tar, in the midst of more compact masses, and the adherence is such that under the mechanical effect of the current the globules are seen to become oblong, assume an olive shape, or almost cylindrical, and stretch out until their adherent power is broken, and then, if the alteration is not too far advanced, the globule resumes its original form by virtue of its elasticity, but we have ascertained that in very severe cases the globules had this property and preserved the olive shape, even when we had made sure that it was entirely isolated and was not connected with neighboring globules, even by filaments of fibrin. If, in the course of the microscopic observation, artificial serum is added, the much greater portion of the globules are seen to resume their independence, their normal shape, and disposition, in the form of a pile of coin; but in cases in which the globules are the most altered this disaggregation does not take place. In very severe cases the fibrin of the blood, when immediately examined, presents in its coagulation a reticulated texture, which is made manifest by gentian purple; but in order to obtain this effect it is necessary to prepare the solution in water in such a way as not to deform the globules. We have found this alteration of the blood in all the cases, and are, therefore, disposed to consider it as a characteristic, or as the pathognomonic lesion produced by the cholera."

The net results of the entire series of the forty-one experiments are summed up, and the conclusions of the Committee stated as follows:

1. That cholera can be transmitted to animals. This fact is fully confirmed by experiments and observations made at Pondicherry and Chandernagore (East Indies) during the past forty years.

2. That the "rice-water" dejections and contents of the stomach and intestines of cholera patients are absolutely innocuous.

3. That it is only the blood of a cholera patient taken during the "algid" stage that is infectious, and this toxic property is greatest in the early part of this "algid" or collapse period. This is simply a confirmation of the theory of Robin, first announced in 1865.

4. That this infectious property in the blood disappears within a period not exceeding twenty-four hours after the close of the "algid" period.

The report closes with the frank and candid declaration that "we can define what the cholera is not, rather than what it is. We have demonstrated the toxic action of the blood during the algid period, but we have discovered no specific agent of such action. It is there, however, that the toxic agent exerts, as it appears to us, its first action."

CHOLERA ITEMS.—Consular sanitary report from Calcutta, for the week ending September 13th, states that the deaths from cholera numbered eleven, and that the disease is slightly on the increase.

Consular sanitary reports from Nice, enclosing a declaration from the Foreign Consuls at Nice, Cannes, and Mentone, states that the neighboring winter resorts on the Mediterranean have been entirely free from cholera, and that all quarantine restrictions at Nice have been removed.

The Chargé d'Affairs of France, stationed in Washington, states that cholera has recently appeared at Yport, a small town of the Department of Seine-Inférieure, but that being completely isolated, with no connection with the country around or Havre (both of which are free from the disease), no preventive measures or quarantine against vessels coming from the coast of Normandy is justifiable by the United States.

BELLEVUE HOSPITAL MEDICAL COLLEGE.—DR. PAUL GRAWITZ, assistant to Prof. Virchow, has just been appointed Professor of Pathological Anatomy in Bellevue Hospital Medical College, and Director of the Carnegie Laboratories. Dr. Grawitz was in this country during the past summer. We learn that, as the result of the informal understanding which was then had with him, no doubt is felt as to his accepting the position.

THE CHOLERA IN FRANCE IN 1884.—According to the *Medical Times and Gazette*, of October 11, the *Lyon Médicale* of October 5 states that a statistical enumeration shows that from the 17th of June to the 15th of September there have been about 5000 deaths, distributed over 200 communes, which supposes at least 10,000 or 12,000 cases of the disease.

PROFESSOR SCHWENINGER.—Considerable excitement was recently created in Berlin medical circles by the appointment of Dr. Schwenger, by Prince Bismarck, to the position of Ordinary Professor of Diseases of the Skin. It appears that Dr. Schwenger has succeeded in curing some of the ailments of Prince Bismarck and his son, which had resisted the efforts of distinguished

members of the Berlin Faculty. The chief objection to the *protégé* of the Chancellor is that there is nothing in his history which promises to confer any honor on the Faculty. Originally a Privat-Docens in Munich, he was, for reasons not stated, excluded from the Munich Faculty; and finding success in practice impossible in that city he went to Berlin, where he ingratiated himself into the Bismarck family.

This, as it appears, unwarranted action on the part of the Chancellor, has called forth a protest from the Berlin Faculty, which, however, has not been noticed by the Berlin journals; probably because they deem it inadvisable in view of the position of the appointer. But it seems that the professorship to which Schwenger was appointed was not sufficient honor, and he has also been made a member of the Imperial Sanitary Board, without any qualification for the position, and against the protest of the Director, Dr. Struck, also formerly a medical attendant on Prince Bismarck. Dr. Struck accordingly resigned his post, and Dr. Koch, in consequence of some unpleasant circumstances connected with the affair, has also given up his seat, after declining to be nominated as Struck's successor.

A cable dispatch, dated Berlin, November 2d, states that Prof. Schwenger, having taken offense at some remarks of Prof. DuBois-Reymond regarding his appointment to the chair of dermatology, has challenged him to fight a duel, which he has declined.

THE HEALTH OF PROFESSOR HUXLEY.—The *Lancet* states that Prof. Huxley has been recommended to leave England, and to spend some months in perfect quiet and freedom from work. It is believed that he will go to Venice.

JOSEPH LEITER AND THE VIENNA GENERAL HOSPITAL.—On the occasion of the celebration of the one hundredth anniversary of the Wiener Allgemeinen Krankenhaus, with which he is so intimately connected, Herr Joseph Leiter, the celebrated Vienna surgical instrument maker, announced his intention of supplying artificial legs to the extent of 500 florins (\$835) per annum, to patients who have undergone amputation.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 28 TO NOVEMBER 3, 1884.

ALDEN, C. H., *Major and Surgeon*.—In addition to his duties at Fort Snelling, Minnesota, to perform the duty of attending surgeon at Department Headquarters.—S. O. 127, *Headquarters Department of Dakota*, October 23, 1884.

TOWN, F. L., *Major and Surgeon*.—Assigned to temporary duty as Post Surgeon, Fort Clark, Texas.—S. O. 145, *Department of Texas*, October 27, 1884.

BENTLEY, EDWIN, *Major and Surgeon*.—To be relieved from duty at Fort Clark, Texas.—S. O. 145, *Department of Texas*, October 27, 1884.

WILSON, W. J., *Captain and Assistant Surgeon*.—Assigned to temporary duty at Fort Trumbull, Connecticut.—S. O. 220, *Department of the East*, October 27, 1884.

CORBUSIER, W. H., *Captain and Assistant Surgeon*.—Assigned to duty at Fort Bowie, Arizona Territory.—S. O. 99, *Department of Arizona*, October 22, 1884.

LA GARDE, L. A., *Captain and Assistant Surgeon*.—Assigned to duty at Fort Ellis, Montana Territory, relieving First Lieutenant G. E. Bushnell, Assistant Surgeon U. S. A., who, upon being relieved, will report for duty at Fort Snelling, Minnesota.—S. O. 126, *Department of Dakota*, October 22, 1884.

EVERTS, EDWARD, *First Lieutenant and Assistant Surgeon*.—Leave of absence extended one month.—S. O. 107, *Headquarters Division of Pacific*, October 21, 1884.